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EMPLOYMENT OF A PILOT.

As indicating that the old rules are still observed relative to pilots we find in Fairplay of March 4th, a communication from which the following is taken:

A pilot employed by compulsion of law should be allowed by the master to direct the navigation of the ship so long as she is within the pilot's district, for if the pilot should make a mistake, the ship's owners are not responsible to third persons for the consequences of it, although it may have arisen through the pilot's negligence or incompetence. If, however, the master should interfere with the pilot, and so cause an accident, the ship's owners would certainly be answerable for it. But the mere fact that a pilot is in charge by compulsion of law does "not exonerate the master and crew from the proper observance of their own duty. Although the directions of the pilot may be imperative upon them as to the course the vessel is to pursue, the management of the ship itself is still under the control of the master. It is his duty to secure the safe conduct of his vessel by issuing the necessary orders, and it is the duty of the crew to carry these orders into execution; and for the due performance of their respective duties the master and crew are still respectively responsible." (The Diana, 1 W. Rob. 131). Among other things, "it is the duty of the master to observe the conduct of the pilot, and in case of palpable incompetency, whether arising from intoxication or ignorance, or any other cause, to interpose his authority for the preservation of the property of his employers. In such case the vessel and lives of the crew are not to be risked because there is a law which under ordinary circumstances, imposes the responsibility upon the pilot" (the Duke of Manchester, 2 W. Rob. 470).

SALE OF A REVENUE CUTTER.

Some of the most lucrative deals that private firms have entered into have been in connection with government or rather national sales. The old revenue cutter, Andy Johnson, just now being replaced by the Walter Q. Gresham, recently completed by the Globe Iron Works Co., will, it is understood, be offered for sale at Cleveland in the near future, and while much has been said in derogation of the Johnson, there is no doubt but that the vessel is still a valuable one in her class for commercial purposes.

Without entering into the original construction, upkeep and present condition of the Johnson, we may point out a sale made a month or two ago on the Pacific Coast of similar tonnage, viz., the revenue cutter Oliver Wolcott.

In February last the Wolcott was sold for \$3,050, it is now asserted that she is worth \$40,000 of any man's money. It was, however, somewhat of a blind deal the purchasers went into. For many years it had been common report that the old Wolcott was unseaworthy, and totally unfit for any sort of service, in fact, that she was likely to fall to pieces at any moment. These reports were so universally accepted that it was in fear and trembling that the families of her officers bade their loved ones good-bye when the Wolcott started to plow the raging waters on her way to Whatcom or Port Angeles. The voyages to San Diego and to Sitka were periods of most intense anxiety for all concerned.

There was little surprise and very general approval when the government ordered the supposed "old tub" to be sold at auction, and everybody agreed that \$5,000 would be the limit for the bidding. The bid of Messrs. Willey, Green and Falk was just \$1,950 short of the limit, and no one felt particularly envious of their bargain.

After the sale the Wolcott was put in dry dock and those in position to know assert that no sounder vessel ever

floated in the waters of the Pacific. Not a break was found in her copper sheathing, and the removal of a single plank from her bottom satisfied everybody with her condition.

Capt. W. J. Bryant, local inspector of hulls, says her timbers and planking are in excellent condition. She is, in the first place, a thoroughly well constructed vessel, her timbers being exceptionally heavy and all the fastenings of composition spikes and copper. During all her years of service the revenue officers have kept the bilge space between the lining and the outside skin packed with rock salt, and on opening her up it was discovered that the salt had crystallized over the wood and preserved it in perfect soundness. Her engines and boilers are now receiving attention. These were put in only about five years ago, and the engines are said to be in very fair shape; the boilers, however, will require considerable repairing.

The government inspection will be completed this month and the Wolcott is likely to be placed in the passenger and cargo trade in the North Pacific.

Our correspondents, wholesale lumber merchants in Seattle, Wash., point out as one reason for the Wolcott's being in such excellent condition that she was built of Washington pine lumber, or as we think it is sometimes called, Douglas pine; however this may be, most of our readers have read of the recent experience of Prof. Nansen during his Arctic cruising in search of the North Pole and his description of the staunch craft that carried him so safely to his point of debarkation. He therein states that his little craft was the strongest vessel he ever saw and she was constructed entirely of Washington fir, selected on account of its strength and general fitness. In furtherance of this view the writer on one occasion had the unpleasant duty of cutting away three lower masts of a full-rigged ship, and after about fourteen years' use the sticks of Washington fir were found to be as sound and wholesome as the day they were stepped.

Aside, however, from the adaptability of Douglas pine for spars, shipbuilding work, etc., the fact remains that tonnage such as the Johnson, Wolcott and many others of recent date, sold under departmental instructions, have generally been found safe investments for private firms, chiefly, as we suppose, on account of their excellent construction and strictly liberal up-keep throughout their national service.

THIRTY KNOT TORPEDO BOAT.

The proposals have just been invited by the secretary of the navy for the construction of three 30-knot torpedo boats. The bids will be opened June 14th. The boats must be completed within eighteen months from date of contract. The successful bidders must show themselves in possession of the necessary plant within three months after signing the contract. The boats will be known as Nos. 19, 20 and 21. Two of them must have a trial displacement of not less than 230 tons and one of 260 tons. The bidders are left ample scope for original ideas as the department prescribes in its circular only the barest outlines of the craft, for the construction of which congress has appropriated \$800,000.

AIDS TO NAVIGATION.

The United States engineers' office force at Detroit is busy with plans and specifications for the spring work. Two dredges were put at work at the upper end of the cut in Lake St. Clair last week, and will probably be there until the end of April. No other outside work has as yet been started.

The lighthouse board engineer, Major Adams, corps of engineers, U. S. A., has completed plans and specifica-

tions for two keepers' dwellings on Portage lake and river; a keeper's dwelling at Devil's Island in Lake Superior; fog signals at Menominee, on Green Bay, and Big Sable, about fifty miles west of Whitefish point on Lake Superior; and sixteen range lights in Portage lake and river; thirteen of which will be in the lower river, one in the lake and two above. Contracts for all the material have been let and some of the material is on the ground. Construction will begin as soon as navigation opens.

The lighthouse tender Haze is fitted out for supplying the gas buoys in the lower lakes, and the Marigold is now fitting for the same service in the upper lakes.

THE NEW CANADIAN AND AMERICAN TARIFF.

The Canadian Manufacturer and Industrial World, Toronto, intend publishing a special edition containing the 1897 Canadian, British and United States tariff at the earliest possible date. The above publication issued this valuable information in compact form in 1894 and the forthcoming edition is to be fully up to the standard of its previous work. The importance to the entire manufacturing, industrial and commercial communities of the three countries named in having these important papers accurately reproduced, all within the covers of a journal, is obvious; and without doubt, will be preserved for reference in all offices into which it may find its way.

EASTERN FREIGHT REPORT.

The list of steamers closed this week for grain cargoes shows a decided decline, both numerically and in rates, and the supply of boats offering is in excess of the demand, although certain sizes required for settlement of old trades in May remain in fair request, and command figures beyond what other boats, not so suitable as to size and position, can secure. The late very severe decline in prices of all our cereals has so far not resulted in much new business, which may, however, follow when values have again settled down to a steady level. The momentary demand for prompt tonnage to land sugars here before the contemplated advance in duty has resulted in a number of charters on time for prompt boats, but mainly for one up trip only from the West Indies. The enquiry for berth tonnage for China and Japan continues good, but owners' demands are prohibitive at the moment. Boats continue going on for timber from the Gulf ports, and the demand, although not pressing, is steady and rates well maintained. Tonnage from the St. Lawrence and the deal ports cannot be placed, however, except at a slight concession from former rates.

The market for sail tonnage shows no new features of particular interest. The supply is light; at the same time, we find but little inquiry, and rates for the present are easier. This fact mainly applies to case-oil freights to the East, in which direction several fixtures have been made at lower rates. In other lines we have nothing new. There are a few orders in the market for lumber from the Gulf to South America for prompt shipment at \$12 net for River Plate and \$13 net for Rio, but, owing to the absence of suitable tonnage, nothing has been done in this trade. Naval stores are quiet, and we cannot quote over 2s. 7½d for resin and 3s. 10 1-2d. for spirits for medium-sized vessels from the South to Cork f. o. b.

THE MILWAUKEE DRY-DOCK CO.

The south dock of the Milwaukee Dry Dock Company is now 450 feet in length instead of 355 feet as formerly. W. E. Fitzgerald is now president and A. M. Joys secretary and treasurer. On the board of directors W. E. Fitzgerald is substituted for John Fitzgerald, late president of the company.

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

U. Grant Grummond, of Detroit, Mich., general manager of Grummond's D. & C. Line, was in the city Tuesday and Wednesday, attending the meetings of the Central Freight Association.

There will be launched at the shipyard of the Chicago Ship Building Co., on April 24th, at 2:30 p. m., the steamship Minneapolis, and at 3:30 p. m. the steamship St. Paul. Leaving the steel barge Amazon the only vessel on the stocks.

Clearances have been rather brisk this week as shippers are inclined to force loaded vessels out at the first opening of the Straits, steel iron and wooden steamers have cleared with their grain for Lake Erie and the rest must follow in short order.

The propeller Lora, which has been rebuilt and lengthened by the Milwaukee Dry Dock Co., at their south yard plant, is completed, and her name has been changed to the Alice Stafford. Wm. E. Fitzgerald, of Milwaukee, is her present managing owner.

Lumber freight rates start in somewhat higher this season, the rate per thousand feet from Menominee to Chicago being \$1.12½. Last year there was considerable complaint regarding low rates, and the indications are that the present rate will be maintained.

Work on the Great Lakes Register, under the supervision of Surveyor General F. D. Herriman, is coming along nicely and the work will probably come from press soon, and it promises in all respects to be the superior of anything in that line ever attempted.

There is to be a new line this season put on between the Chicago and South Haven route, as advised in your last issue, however, as the company has only one small steamer and incorporated for \$20,000, it is not likely to cut a very great figure in the trade and cut freight rates are likely to be looked for.

Ground has been broken at the south shipyard plant of the Milwaukee Dry Dock Co., and work is being rapidly pushed on the steel ship building and repair plant that the company are adding to their already large facilities, and they will be in shape to take care of iron and steel repair work within a very short time.

The Inland Lloyd's Vessel Register is just from press and is already in the hands of the Chicago representatives of the Lloyd's. The work is something of an improvement over previous issues, though fewer boats are given a valuation. This is probably out of regard to owners who do not care to have a valuation set upon their vessels.

Grain shippers who have grain afloat are commencing to complain at the delay in opening navigation. Vessels are not over anxious to reach Buffalo, as they would have nothing to do after discharging their cargoes, owing to the undecided condition of freight rates. At present there are 6,828,843 bushels of grain afloat in and about Chicago harbor. The South Chicago fleet consists of some of the largest vessels afloat on the lakes.

Among the vessel agents who are or contemplate moving their offices to new quarters, are: J. A. Calbick & Co., who will occupy the office at No. 12 Sherman street, formerly occupied by Carr & Blair. P. H. Fleming & Co., will probably remove from the corner of Sherman and Jackson streets, but to what new location I have not yet learned. Geo. L. McCurdy, at present located in 808 Royal Insurance Building, will after May 1st occupy a handsome suite of offices on one of the top floors of the several stories which have been added to the height of the building. The insurance firm of Chas. E. & W. F. Peck will also occupy handsome offices in the new part of the Royal Insurance Building.

The Boiler Maker, a monthly journal published in Chicago by the well-known iron and steel house of Joseph T. Ryerson & Son, in its April number just from press, has the following editorial relative to the business outlook: "Trusts are not fashionable nowadays. Prices are at bed rock, the collapse of the 'steel billet' and 'ore' trusts having squeezed all the water out of artificial or inflated values, and for the first time in years there is unrestrained competition. Whether this relentless cutting of prices is a good thing we cannot discuss here, but it at least has the benefit of giving buyers an intelligent view of the markets, which, from now on, will be subject to the laws of supply and demand. We can report a larger inquiry, a growing tonnage on our order books, slower deliveries by the mills and better collections. No one is boasting of profits, though we think the habit of crying 'hard times' is too deep-seated to enable many to confess to an improvement, even though it actually exists."

DETROIT.

Special Correspondence to The Marine Record.

The Frank E. Kirby has been fitted out for the season, and will start April 15 for Sandusky.

The City of Alpena, Capt. Slyfield, will start to Mackinac April 15, opening the D. & C. Lake Huron division for 1897.

John I. Adams is hustling for marine insurance since he has removed to the foot of Griswold street, and is meeting with some success.

John Stevenson has recently secured the local agency of the Ogdensburg Transportation Co., and now repre-

sents more rail-lake lines than ever before, and more than any one else in Detroit. Mr. Stevenson starts his new steamer Mascott on Thursday, and expects to do a fine trade along the west shore of Lake St. Clair.

Parker and Millen have secured the agency for the Peck marine insurance syndicate, having headquarters in London, Chicago and New York.

There was a rumor started last week, that David Carter, on behalf of the D. & C. Co., had paid the Grummonds \$35,000 to stop running on the Cleveland-Detroit route. Both Mr. Carter and Mr. Grummond deny that any such move is being made. The steamer State of Michigan is lying here doing nothing, though Mr. Grummond says she is waiting for some machinery repairs, and will run again as soon as they are made.

The situation in Detroit among vessel interests is practically unchanged from a week ago. The same uncertainty regarding the ore future. The same low and dull coal market, and the same suspense among vessel interests cover all points of trade. Detroit vesselmen, of course, are looking for changes soon, and the opening of the Straits of Mackinac, and the starting of the Chicago grain fleet, together with the appearance of Lake Superior, presaging an early opening, all point out that some business must very shortly be done.

CLEVELAND.

Special Correspondence to The Marine Record.

The most chartering being done now is in coal cargoes. Ore is still quiet.

The steamer J. C. Gilchrist will be fitted with a new smoke preventer.

The steel steamer Andrew Carnegie, just built to the order of the Wilson Transit Line, is now loading coal for Sheboygan.

Mr. Robert Logan, naval architect and consulting engineer, left here on Tuesday for Bay City, expecting to return today.

Carnegie & Co. now occupy large offices in the Perry-Payne building. W. H. Mack has moved his office, remaining in the same building, however.

Capt. Killoran, the lately appointed Lloyd's surveyor, was in the city this week on business connected with the London Association of Underwriters.

Capt. C. E. Benham has chartered the steamer H. B. Tuttle to the Elk Rapids Iron Co. for the season. She will carry ore from Escanaba to Elk Rapids.

At the Ship Owners' Dry Dock, the Bessemer Liner George H. Corliss, is in for overhauling. There is also considerable job work and repairs being carried on.

Treasurer Geo. P. McKay, of the Lake Carriers' Association, received a letter yesterday from President Millen confirming the report concerning a reduction in grain shoveling charges.

Capt. Albert M. Shepard left this port on Saturday night for Chicago, to join the Wilson Line steamer Olympia, loaded with grain for Buffalo. Chief Mate Ben Tripp left on Sunday night.

The next launch from the yards of the Globe Iron Works Co. is expected to take place Saturday, April 24th. This will be the large schooner or tow-barge building to the order of Mr. Tener, of Pittsburg.

It is now expected that the large schooner Constitution building at the yards of the American Steel Barge Co., to the order of the Inter Lake Co., of this port, will be launched on Saturday next, April 17th.

A. E. Thompson, representing the Union Transit Co., announces that the Eber Ward will leave Cleveland on Tuesday next. The company's business will be done this season at the corner of River and Front streets.

A small block of coal, to go to Portage, has been covered at 30 cents and boats are getting that rate for first trips. It cannot be learned that any coal for Milwaukee or the head of Lake Superior has been covered.

The Mona Transportation Co. will operate the steamer George Presley and schooner Nellie Reddington this season. The officers of the company are: J. B. Cowle, president; F. H. Taylor, vice president; Capt. W. W. Brown, secretary and manager.

Capt. H. C. McCallum, presiding officer of the Masters and Pilots' Association, Detroit Harbor, No. 47, visited this port on Saturday. As announced in these columns last week, Capt. McCallum has been appointed master of the Manola, owned by the Minnesota S. S. Co., now lying at Fort William.

Mr. Herman, general passenger agent of the C. & B. Line, has issued a very attractive card entitled "Coming out for the Season." The illustration shows the large handsome side-wheeler City of Buffalo breaking through an iceberg and showing about two-thirds of her length in "spick span order. I think Mr. Herman is to be congratulated for getting up so appropriate a notice for the C. & B. Transit Co.

Capt. William Gerlach, who left the Onoko to take charge of the steel steamer I. W. Nicholas, when she was built, has been appointed manager of the Minch Transit Co., Mr. Philip Minch having resigned. If a thorough knowledge of the customs at all lake ports and the proper handling of vessels are conducive to good management, then Capt. Gerlach will be a commercial success, another thing; he is certain to satisfy the stockholders of the line and he has considerable interests, or money, there himself.

The steamer State of New York will hereafter run on schedule time between Cleveland and Toledo. A gas buoy has been lighted near the mouth of the channel

out of Toledo and stakes have nearly all been set. She will leave Toledo Tuesdays, Thursdays and Saturdays.

At the Cleveland Dry Dock, the whaleback barge James B. Nielson is receiving a new propeller wheel and a number of new shell plates. The George Presley has also been thoroughly overhauled. The Nellie Reddington has been given new bulwarks and rails.

Pickands, Mather & Co. have placed whalebacks for 700,000 bushels of Duluth wheat at 2 cents. It is said that boats have been chartered at Duluth for between 3,500,000 and 4,000,000 bushels of grain, the rates ranging from 2½ cents to 1¾ cents. The former price applies to vessels which loaded last fall. The Coralia and Zenith City were paid a good rate for taking cargoes at that time. Two-cent wheat is equal to ore at 74 2-3 cents.

It is expected that the Chicago grain fleet will be forced to go in ordinary when they get to Buffalo. Some of the owners are figuring on discharging the crews. Very little business is being done in freights. The steamer George Spencer has been chartered for coal, Buffalo to Duluth, at a rate which the owner will not name. The Andrew Carnegie will get away the latter part of this week. The Rhoda Emily will carry a load of coal to the Soo for 30 cents, and the Voges, Benson, Everett, and Andrews go to Sandwich for 20 cents. The Aragon has been chartered for coal from Ashtabula to Sheboygan at 30 cents, and the Porter Chamberlain will load here for Alpena.

SAULT STE. MARIE.

Special Correspondence to The Marine Record.

Capt. J. B. Mondor will sail the Ossifrage and Capt. Wm. McCarty the Minnie M. on the Soo Cheboygan route this season.

The yacht Waupoose, which C. T. Gilmore and T. R. Harvey used as a reporting and collecting boat last season, will not be put in commission this year.

Capt. Jay Hursley, Sault Ste. Marie, has sold the steamer City of Grand Rapids to Capt. Smith, of South Haven, and Chicago parties. A stock company will be formed and the boat placed on the South Haven-Chicago route.

Capt. Jay Hursley, Leon Bellair, Jos. Rouleau, A. B. Roach, Thompson Tug Line, T. R. Harvey, Geo. T. Arnold, of Mackinac Island, and Alva Butterfield, of Detour, have put in bids for carrying the mail between the "Soo" and Detour.

Supt. E. S. Wheeler is authority for the statement that the present stage of water both above and below the locks is almost exactly the same as last season. This ought to give a depth of nearly 16 feet on the opening of navigation. The most shallow point now in the channel of the St. Mary's River is in the Middle Neebish, opposite the dike.

The ferry started to run between the two "Soo's" last week. The ice is quite rotten down as far as Detour. Capt. Jos. Rouleau will go to Sailors' Encampment to place targets and range lights on St. Joe Island, showing the center of the new cut that is being dredged. He intends also putting a light ship on Johnston's Point and one on the lower end of the cut. He will have his ranges, targets, lights, etc., in operation by the opening of navigation.

Dunbar & Sullivan tugs: Phil Sheridan—Robt. Mains, master; C. Payment, engineer. Spalpeen—M. O'Brien, master; W. M. Shewfelt, engineer. Paddy Miles—Jno. Campbell, master.

Sault Ste. Marie Ferry Co: International—Chas. Ripley, master; M. Frichette, engineer; Chas. Ripley, Jr., clerk.

Frank Perry tugs: Samson—Fred Ryers, master; John Minnie, engineer. Smith—F. D. Quinlin, master; Norman Rains, engineer. Seymour—Albert Payment, master; Fred Lapish, engineer.

Ainsworth & Ganley tugs: Clark—Frank Nichols, master; Robt. Grierson, engineer. Doty—Jas. Garret, master; Chas. King, engineer.

U. S. Government tugs: Myra—Frank Dolsen, master; Rupert Rains, engineer. Antelope—Arthur Powell, master; George Hodge, engineer.

BUFFALO.

Special Correspondence to The Marine Record.

The steamer Isabel Boyce has been chartered for coal, Erie to Marinette, at 30 cents. She will tow the schooner Cahoon, which has also been chartered for coal, Erie to Escanaba, at 30 cents.

Manager Farrington, of the Northern Steamship Co., assumed charge this week and leased nearly the entire twelfth floor of the Guaranty building for offices. He will also have charge of the new elevator building for the line.

The Baldwin and A. A. Carpenter went into Mills' Dry Dock for repairs this week, and the excursion steamer Corona went into the Union Dry Dock for a general overhauling. It is said that quite a large amount will be spent to put the Corona in good shape.

Capt. J. H. Killoram has been appointed marine inspector and surveyor for the English underwriters engaged in lake business. The position is a very important one and was formerly held by J. R. Oldham, of Cleveland. The appointment comes through Johnson & Higgins.

The Woodlawn Beach Co., John C. Fitzpatrick manager, will have the steamers Puritan and Sailor Boy running on schedule time this season. The Beach is a favor-

ite summer resort and the line will, no doubt, have a brisk and prosperous season under its able management.

The Buffalo Elevator Association has agreed to reduce the shoveling charges on grain from \$3.50 to \$3.35 per 1,000 bushels. A special committee of the Lake Carriers' Association has sent a report to President Millen showing that this small reduction is worth nearly \$25,000 to vessels in one season.

The Northern Steamship Co. will inaugurate the fourth season of passenger service Tuesday, June 15, when the first east-bound steamer is scheduled to leave Duluth. The regular sailings from Duluth will be Tuesdays and Saturdays. The first west-bound sailing from Buffalo will be Friday, June 18. The freight service of the Northern Steamship Co. will begin April 20.

Com. Theodore F. Jewell, U. S. N., of the Tenth Lighthouse district, which extends from Detroit to Ogdensburg, is here prepared to take charge on the retirement of Com. Gridley at the end of this month. Com. Jewell comes from ocean service, having been in command of the cruiser Marblehead. The change is in the regular routine that prevails in the department. An officer is given three years of detail service in the several capacities and districts.

A new though minor element has entered into the Buffalo elevator speculation in the purchase by Capt. Thomas M. Ryan of the steamer Saginaw Valley, for the purpose, as is supposed, of using her to tow his schooner, A. J. Rogers, in the Toledo grain trade. This means a material strengthening of the cut-rate elevators and a corresponding weakening of the pool. The burned Ryan elevator will not be rebuilt for some weeks, but in the meanwhile the grain it would otherwise handle will go through the Raymond, which is also out of the pool.

Daniel H. Wilcox announces the establishment of a bureau of marine adjustment, of which he is to be the manager. He has done some very intricate work in that line successfully of late, the steamer Northern Wave being one of them, and there appears to be a demand not only for adjusters who are not connected with insurance agencies, but also for those who will collect as well as arrange the settlement of losses. This Mr. Wilcox proposes to do, and he is in a position to carry out his end of the business and all that he may undertake in this connection.

It is reported that there is some prospect that the Buffalo end of the Erie Canal will not be ready for opening till the middle of May. The canal has secured a large amount of steel rails from Pittsburgh to come over the Carnegie road to Conneaut, and the canal boats will go up there for them. This new departure is a great card for the canal if it can be continued and if the exportation of rails is to be a feature of the American iron trade it is likely to. On the other hand, the announcement of Supt. Aldridge that the canals will be opened for business on the first day of May is pleasing news for the boatmen. The opening rates have been fixed at 3 3/4 cents per bushel on wheat and 3 1/4 cents on corn. Several loads have been taken at these figures, but it seems to be the impression among the canalers that the railroads will carry the bulk of the first cargoes of grain to the East. The canalers believe that the railroads have become tired of carrying grain on a loss and that they will not go below these figures.

COPPER HARBOR, MICH.

Special Correspondence to The Marine Record.

The ice here at Copper Harbor has been green and solid up till within about ten days ago, since which time we have had quite a thaw and if the weather continues navigation will probably open about the 20th or 21st.

It would be a good thing for vesselmen if a branch postoffice or even a telephone connection was put in at this place, as we are twelve miles away from adequate assistance in case of wreck or in wishing to communicate.

FLOTSAM, JETSAM AND LAGAN.

The steamer Emily P. Weed is now called the Savona. The Lighthouse Keepers' Association has been extending its membership rapidly among the government keepers on the lakes.

All buoys and lights are in position in Detroit and St. Clair Rivers, and the mail boat began the delivery of mail matter to passing boats April 12.

The steamer Mark Hopkins, which was sunk in St. Mary's river last season and raised and towed to Marine City, has had over \$20,000 spent on rebuilding her during the winter.

The wreck of the schooner George W. Adams, which was sunk by the ice off Colchester over a year ago, has been again located and a buoy placed on it. It is said the wreck is badly broken up.

From present conditions steamers will be able to force a way through the ice in St. Mary's River by Saturday or Sunday next. The locks will be ready by Saturday. The channel is open to the black can in Mud Lake.

It is reported that Capt. John C. Pringle, Jr., and others have bought of Carter Bros. at Port Colborne, the wreck of the steamer Fairbank. Some of her machinery is good and her hull is sound enough for a rebuild.

The prospect of the canal opening at on or about April 20th, is eagerly looked forward to, especially by those who expect to have appointments under the new Canadian Government, but so far none has been made public. The committee of management will soon have to decide

if any changes are to be made, as they are nearing the opening of navigation. The number of boats grain laden from Chicago to Kingston and other lower Lake Ontario ports will be exceptionally large, as thirty or more have been chartered during the winter, and when the fleet arrives the usual spring rush is anticipated.

The Toledo Harbor Tug Line reorganized on Monday. Capt. Nagle has purchased the tug Saugatuck and a lively tug war is threatened. The Toledo Harbor Tug Line has nine tugs, the Vessel Owners' Line two tugs, the Rooney fleet four tugs, and all are seeking work.

The grain rate situation at present is absolutely featureless at Duluth. Vessel tonnage is offered at 1 3/4 cents, but none has been accepted lately so far as can be learned. The ore situation seems to offer so much chance for speculation that it is expected nothing will be done in grain charters until ore rates are fixed.

Quite an event is to be made of the launching of the Constitution next Saturday at West Superior. This is the first vessel of the usual model which the American Steel Barge Co. has built and according to the wishes of the Inter-Lake Transit Co., of Cleveland. She is to have a champagne christening.

Shippers say they can get ore tonnage at seventy cents from the head of Lake Superior up to October 1st, but it cannot be learned that any tonnage has been contracted for. Some small slices of Mesaba ore have been made and sales agents for the old range mines are now hustling for business with but little present success.

It will be learned with some degree of pride that the famous old yacht America that brought the cup from England, is being fitted out to sail again. Since the death of Gen. Butler, the yacht has been laid up, although she still belongs to the estate and the Butler heirs, among whom are several enthusiastic and skilled yachtmen will sail the old racer once more.

There is no more reason in asking the United States government to pay a bounty to sailing vessels to enable them to keep the seas than there would be to ask the shipowners of this country to pay a bounty to American marine newspapers to keep them afloat. If sailing vessels cannot compete with steamships they must give up the fight.—American Shipbuilder.

A vessel 124 years old, that recently arrived at Kiel through the North Sea and the Baltic Canal, seems to prove that the good old times of wooden shipbuilding are not without proper justification. The Kieler Zeitung mentions the arrival at that port of the Danish sailing vessel, De Tro Sostere, hailing from Aeroeskjobing with a cargo of linseed cakes. This boat was constructed in 1772 at Rudkjoberg, but is still perfectly seaworthy, tight and easily handled.

There is nothing in the outlook to hurry the work of fitting out boats, and that fact is well known by vesselmen. The movement of cargo of all kinds will be light at the start, and the longer the vessels are kept in port the better it will be for the trade. The manager of a large fleet a few days ago said that he was surprised to see vesselmen charter their boats for coal, when there was nothing in sight for them to come back with. They will get their boats at upper lake ports, he said, and will then have to accept whatever rate the shippers feel like offering, and the pounding will commence at once, and it will be a hard matter to stop it after it gets started.

The wooden steamer City of Berlin, with grain from Chicago, passed through the Straits of Mackinac on Friday afternoon, the first boat of the season. After passing Mackinaw the steamer took the north passage into Lake Huron to avoid the large ice field in the south passage, which was solid to Au Sable. The lighthouse tender Dahlia was the second boat through the Straits of Mackinac on Sunday, April 11th. Her captain reported heavy ice between Mackinaw and Waughoshance, and said he was compelled to bring his boat between St. Helena and the north shore to get through. The steamer Pentland succeeded in getting through the ice, next closely followed by the Wilhelm.

The Thunder Bay life saving crew is composed of the following members for this season: Keeper. Capt. J. D. Persons: surfmen. Iule Frederickson, Eli Knudson, Robert Lough, Will Cleary, Ed. C. Bishop. Geo. Winterhalter. The neighboring station at Middle Island is manned as follows. Keeper, Capt. M. A. McLennan: surfmen. Jas. Hunter, Clarence Coburn, E. P. Motley, Eber Warwick, Wm Findlay, David Allen, Frank Smith, Edward Neimitz. Hereafter, it is understood, the appointment of keepers will be by selection by the district superintendent and assistant inspector, instead of by civil service rules, as was contemplated. Surfmen, however, will still be appointed under civil service rules.

The American Ship Windlass Co., of Providence, R. I. have made an excellent departure inasmuch as they now manufacture the Shaw and Spigle Patent steam towing machine in four different sizes, to handle steel wire hawsers of 1 1/4 in., 1 1/2 in., 1 3/4 in., and 2 in. diameter. The size of the engines and the proportion of gears, size of drum etc., are made to correspond with each size of hawser, so that parties who have heretofore deferred ordering the towing machines on account of the room that they take up will now find that for tug boats, or for smaller tugs they can have a towing machine that will take up little room and is much lighter than the larger sizes, as the small machine is made entirely of steel throughout. We may further add that no wrecking outfit or first-class tug boat can be fully equipped without one of these powerful and compact steam towing machines and one or more patent flexible steel wire tow ropes.

APPOINTMENT OF OFFICERS.

Geo. Hall Coal Co., Ogdensburg, N. Y.: Steam barge Hecla—D. Hourigan, master; D. Doyle, engineer. Tug Proctor—W. A. Russell, master; A. E. Cline, engineer. Tug Wilson—Jos. Richard, master; Jos. Conliff, engineer. Tug Curlin—P. J. McGrath, master; Geo. W. Cline, engineer. Sherman—C. W. Howard, master. Bolivia—Jos. Gooder, master. Beals—Geo. Cote, master. Lyon—S. La Flam, master. Mathews—F. D. Linn, master. Diamond—Alex. Rabideau, master. Argosy—Jno. Gokey, master. Mohawk—Laurent Vernier, master. Onondaga—Isidra Bennett, master. Richard—Chas. Richard, master.

Capt. L. S. Sullivan, Toledo, Ohio: Steamer David W. Rust—Wm. J. Leaver, master. Schooners C. C. Barnes—Geo. W. Burter, master. John Schuette—Jas. Robinson, master. H. H. Badger—Oscar H. Brown, master. Chicago Board of Trade—Geo. R. Bonnah, master.

J. C. Gilchrist, Cleveland: City of Genoa—J. L. Weeks, master; James Mitchell, engineer. City of Naples—Geo. Bell, master; John Fritz, engineer. A. P. Wright—C. T. Gunderson, master; Alfred A. Green, engineer. C. W. Elphicke—W. H. Moody, master; Henry Jesson, engineer. John Craig—J. C. Byers, master; E. J. Rae, engineer. R. E. Shuck—F. A. Bailey, master; John Parks, engineer. J. C. Gilchrist—William Blattner, master; Henry Stone, engineer. John B. Lyon—B. Moshier, master; W. D. Schwocofer, engineer. Cumberland—W. G. Stewart, master; Henry Mitchell, engineer. Columbia—F. A. Goodell, master; C. N. Albee, engineer. Hiawatha—J. P. Minsky, master; J. S. Taylor, engineer. Oregon—Henry Walper, master; James Hyde, engineer. Waverly—A. J. Green, master; E. Harris, engineer. V. Swain—Charles Hahn, master; John Erving, engineer. Schooners—H. A. Kent—D. C. Sullivan, master. H. D. Alverson—R. Janssen, master. F. A. Georger—Thomas Tucker, master. Moonlight—J. S. Jones, master. Verona—S. C. Philip, master. W. S. Crosthwaite—George Pollock, master. S. H. Foster—K. Hamring, master. M. S. Bacon—J. S. Ellis, master. T. P. Sheldon—John McNamara, master. S. L. Watson—W. F. Hornig, master.

Northern Steamship Co.: Steamers—North West—George A. Miner, master; John A. Currier, engineer. North Land—Wesley C. Brown, master; John King, engineer. Northern King—M. H. Murch, master; John O'Mara, engineer. Northern Queen—John F. Vaughn, master; A. T. Stewart, engineer. North Wind—Delos Waite, master; Thomas W. Jackman, engineer. Northern Wave—Martin Niland, master; John J. Darcey, engineer. Northern Light—M. H. Harberer, master; Frank Harringer, engineer. North Star—William Thorne, master; William T. Pike, engineer.

Lakewood, Lakeland, Lake Erie and Becker Transportation Companies: Steamers V. H. Ketchum—William Ferguson, master; Frederick Pontzer, engineer. Pascal P. Pratt—George W. Pierce, master; Harry Earaly, engineer. George W. Roby—William Smith, master; William Young, engineer. Schooners Wadena—George Mackie, master. Annie M. Ash—Harry Peters, master. William D. Becker—George Richards, master.

The Kelley Island Lime and Transportation Co.: Steamer Albert Y. Gowen—Charles C. Smith, master; Charles C. Smith, Jr., engineer.

L. P. & J. A. Smith, Cleveland: Steamer Margaret Olwill—John F. Brown, master; F. W. Wheeler, engineer. Schooner Baldwin—Master —.

Mona Transportation Co.: Steamer George W. Presley—Thompson, master; Charles Church, engineer. Schooner Nellie Redington—Packer, master.

Gilchrist & Fletcher, Alpena: Steamers Viking—Harry Richardson, master; Robert Leitch, engineer. Norseman—H. L. Foster, master; Thad H. Kneale, engineer. S. C. Hall—H. Bennett, master. Garden City—Jas. Brines, master. Fletcher—J. A. Stewart, master. Tugs Ralph—Jas. Putnam, master; Antoine Dennie, engineer. Arthur D. —John Kenyon, master; Sam'l Kissack, engineer. Frank W.—John Lawrence, master; Byron Persons, engineer. John Owen—Thos. Lillis, master. Fred B.—M. A. Grant, master. Schooner J. B. Kitchen—B. McCaffery, master. Barges Vinland—Chas. Hanson, master. Nellie Mason—J. B. Mitchell, master. Sam Flint—Thos. J. Stevens, master. Knight Templar—Hugh G. Hamilton, master. Russian—Jas. Hamilton, master. Light Guard—Jas. Hanson, master. F. H. Lathrop—Jos. Coty, master. India—H. Hanson, master.

Thompson Tug Line, Port Huron: L. D. Smith—Jas. Bell, master. W. A. Rooth—Jno. Grisdale, master.

Hart Line, Green Bay, Wis.: Fannie C. Hart—H. W. Hart, master; Jules Scram, engineer. Eugene C. Hart—C. B. Hart, master; W. F. Long, engineer. C. W. Moore—Ed. W. Hart, master; James Miller, engineer. Welcome—P. Roulette, master; George Coulter, engineer.

Lackawanna Line, Buffalo: Steamers Lackawanna—Frank Weinheimer, master; W. B. Lewis, engineer. Scranton—James H. Green, master; Charles Van Every, engineer. Russia—John D. Green, master; William Brown, engineer. Arthur Orr—John Massey, master; Edward A. Carter, engineer. Chili—James Gibson, master; A. J. Wilson, engineer. Florida—Henry Murphy, master; G. M. Wise, engineer. Wyoming—Alexander Kelly, master;

(CONTINUED ON PAGE 9.)

QUARTERLY RETURNS LAKE SHIPBUILDING.

NAME AND BUILDERS' NUMBER.	RIG.	HULL DIMENSIONS.			ENGINE DIMENSIONS.	ENGINE BUILDERS.	BOILER DIMENSIONS.			BOILER BUILDERS.	OWNERS.	ESTI- MATED COST.	
		Length over all.	Length on Keel.	Beam			Depth	No.	Dia.				Length
UNION DRY DOCK CO., BUFFALO, N. Y.													
No. 80—two steel pole spars.....		343	325	44	28	22, 38½, 64 x 42.....	King Iron Works, Buffalo, N. Y.....	4	2-11½	13	Lake Erie Boiler Works, Buffalo.....	Erie R. R. Co.	
No. 81.....	Tug.	87-2½	78-10	21	12-3	16, 32 x 28.....	King Iron Works, Buffalo, N. Y.....	1	10-0	13-0	Farrar & Trefts, Buffalo, N. Y.....	Erie Tug Line.	
No. 82—steel dump.....	Scow.	197	197	25	12							Dunbar & Sullivan.	
No. 83—steel dump.....		197	197	25	12								
No. 79—oil bulk barge.....	Schr.	266	254	40	23			1	8	13	Farrar & Trefts, Buffalo, N. Y.....	Standard Oil Co.	
*GLOBE IRON WORKS CO., CLEVELAND, O.													
Hull, No. 68.....	Schr.	378	366	44	26			1	8-6	9-0	Globe Iron Works Co.....	Bessemer S. S. Co.	
Hull, No. 69.....	Schr.	4,000	378	366	44			1	8-6	9-0	Globe Iron Works Co.....	American Transportation Co.	
Hull, No. 70.....	Schr.	4,500	388	376	46			1	8-6	9-0	Globe Iron Works Co.....	James Corrigan.	
CHICAGO SHIP BUILDING CO., S. CHICAGO, ILL.													
Crescent City.....	Steam.	426	406	48	28	19, 28, 41, 60 x 42.....	Chicago Ship Building Co.....	2			B. & W. Co.....	Zenith Transit Co.....	\$250,000
Carrington.....	Barge.	352	352	44	26		Chicago Ship Building Co.....	2	11	12	Cleveland Ship Building Co.....	Elphicke, et al.....	125,000
Minneapolis.....	S. S.	254½	238	42	26	17, 29, 47 x 36.....	Chicago Ship Building Co.....	2	11	12	Cleveland Ship Building Co.....	Lower Lake S. S. Co.....	125,000
St. Paul.....	S. S.	254½	238	42	26	17, 29, 47 x 36.....	Chicago Ship Building Co.....	2	11	12	Cleveland Ship Building Co.....	Lower Lake S. S. Co.....	125,000
Amazon.....	Barge.	390	376	46	26							Jas. Corrigan.....	150,000
EDWARD M. HEATH, BENTON HARBOR, MICH.													
Wm. McCarty.....	Tug.	85	74	20-6	11-6	Fore and aft comp., 16, 34 x 26.....	Montague Iron Works.....	1	9	14	Johnston Bros.....	Lydon & Drewitt, Chicago, Ill.....	17,500
No. 29.....	S. Y.	50	62	8-8	6	Fore and aft comp., 6, 12 x 6.....	Marine Iron Works.....	1	4	5	Roberts Safety Water Tube.....	H. B. Larsen, Manistee, Mich.....	4,500
No. 31.....	S. Y.	70	62	12-4	5	Fore and aft comp., 8, 16 x 10.....	The Carl Anderson Co., Chicago, Ill.....	1	5	6	Water Tube.....	John M. Smythe, Chicago, Ill.....	6,000
Rival.....	S. Y.	46	46	7-4	4	Fore and aft comp., 5, 10 x 7.....	Chas. F. Elmes Eng. Wks., Chicago.....	1	4	5	Roberts Safety Water Tube.....	Builders' account.....	3,600
ROGERS & BIRD, SAUGATUCK, MICH.													
Rogers & Bird.....	Yacht.	65	58	12	6	10 x 11.....	Sutton.....	1	48	72	Johnson Bros.....	H. Rogers.....	3,500
Wilson & Harvey.....	Barge.	45	73	15	6½	12 x 14.....	Huntley.....	1			Johnson Bros.....	Wilson & Harvey.....	4,005
Heath & Ingleson.....	Yacht.	44	40	8	4	7 x 7.....						Heath & Ingleson.....	800
CLEVELAND SHIP BUILDING CO., CLEVELAND, O.													
Andrew Carnegie.....	3 Poles	420	400	48	28	23, 38, 63 x 40.....	Cleveland Ship Building Co.....	3	12	12	Cleveland Ship Building Co.....	The Wilson Transit Co.....	
Empire City.....	3 Poles	426	406	48	28	17, 26, 39, 60 x 40.....	Cleveland Ship Building Co.....				Babcock & Wilcox.....	The Zenith Transit Co.....	
F. W. WHEELER & CO., WEST BAY CITY, MICH.													
W. Le Baron Jenney—No. 120.....	Schr.	380-0	366-0	44-6	26-0	17, 28, 47 x 36.....	F. W. Wheeler & Co.....	1	8	10	Wick's Bros.....	Bessemer Steamship Co., Cleveland.....	130,000
No. 121.....	Schr.	281-0	266-0	42-0	19-0	17, 28, 47 x 36.....		2	11-0	12-0	Wick's Bros., Saginaw.....	D. O. Mills, N. Y.; Lewis A. Hall, Bay Mills, Mich., and others.....	125,000
DAVIS & CO., KINGSTON, ONT.													
Can. Locom. Wks.—two barges, steel and comp.		180	174	36	14								
Davis & Son—private yacht.....	3 Masts Yacht.	600	54	12	4½	7, 14 x 10.....	Davis & Son.....		5	6½	Davis & Son.....	M. T. Co., of Montreal.....	22,000
MESSRS BURGER & BURGER.													
H. B. & G. B. Burger, Manitowoc, Wis.....	Tug.	49	43	12	7	10 x 10.....	Old, in good repair.....		4	6	Gunderson Bros.....	C. Mickle.....	4,200
JAMES DAVIDSON.													
Venezuela.....	S. S.	7,800	265	44	25	Trip, expan.....	Frontier Iron Works.....				Howden draft.....	James Davidson.....	3,000
No. 79.....	Tug.	90	80	20	10	15, 30 x 26.....	Frontier Iron Works.....	1	8½	13		Barry Towing and Wrecking Co.....	125,000
No. 80.....	Tug.	90	80	20	10	15, 30 x 26.....	Frontier Iron Works.....	1	8½	13		Barry Towing and Wrecking Co.....	20,000
No. 81.....	Schr.	3,000	290	45	24							James Davidson.....	90,000
No. 82.....	Schr.	3,000	290	45	24							James Davidson.....	90,000
No. 83.....	S. S.	2,000	220	41	22	Compound.....						James Davidson.....	80,000
No. 84.....	Tug.	85	75	20	10							Independent Tug Line.....	15,000
No. 85.....	Barge.	100	90	24	7							Andrew Gray, limited.....	3,000
No. 86.....	Barge.	100	90	24	7							Andrew Gray, limited.....	3,000
AMERICAN STEEL BARGE CO., W. SUPERIOR, WIS.													
Constitution.....	Schr.	3,231	379	44	26							Inter Lake Co.....	130,000

*The gross tonnage above for Nos. 68, 69 and 70 are on 14 ft. 6 in. draft.

In addition to the foregoing two whale back barges brought up from the coast last fall have been out in two and lengthened at the yards of the American Steel Barge Co., W. Superior, Wis. Laird & Son, of Ashtabula, are building a twenty-five foot naphtha launch for E. H. Burill, besides other small craft, and local builders are engaged in completing considerable work. The Herpurn Co., Toledo, are building small craft. The Thompson Towing and Wrecking Association, Port Huron, has repaired and rebuilt their fleet ready for the season's work. The Marine Iron Works, Chicago, building tugs, steam yachts, excursion boats, etc. A. Muir, Port Dalhousie, Ontario, rebuilt steamers Lake Michigan and Ocean. D. Armstrong is having a tug built at Port Colborne, and there is quite a large quantity of miscellaneous tonnage building, which, however, is not of sufficient importance to enter in the table herewith presented to our readers.

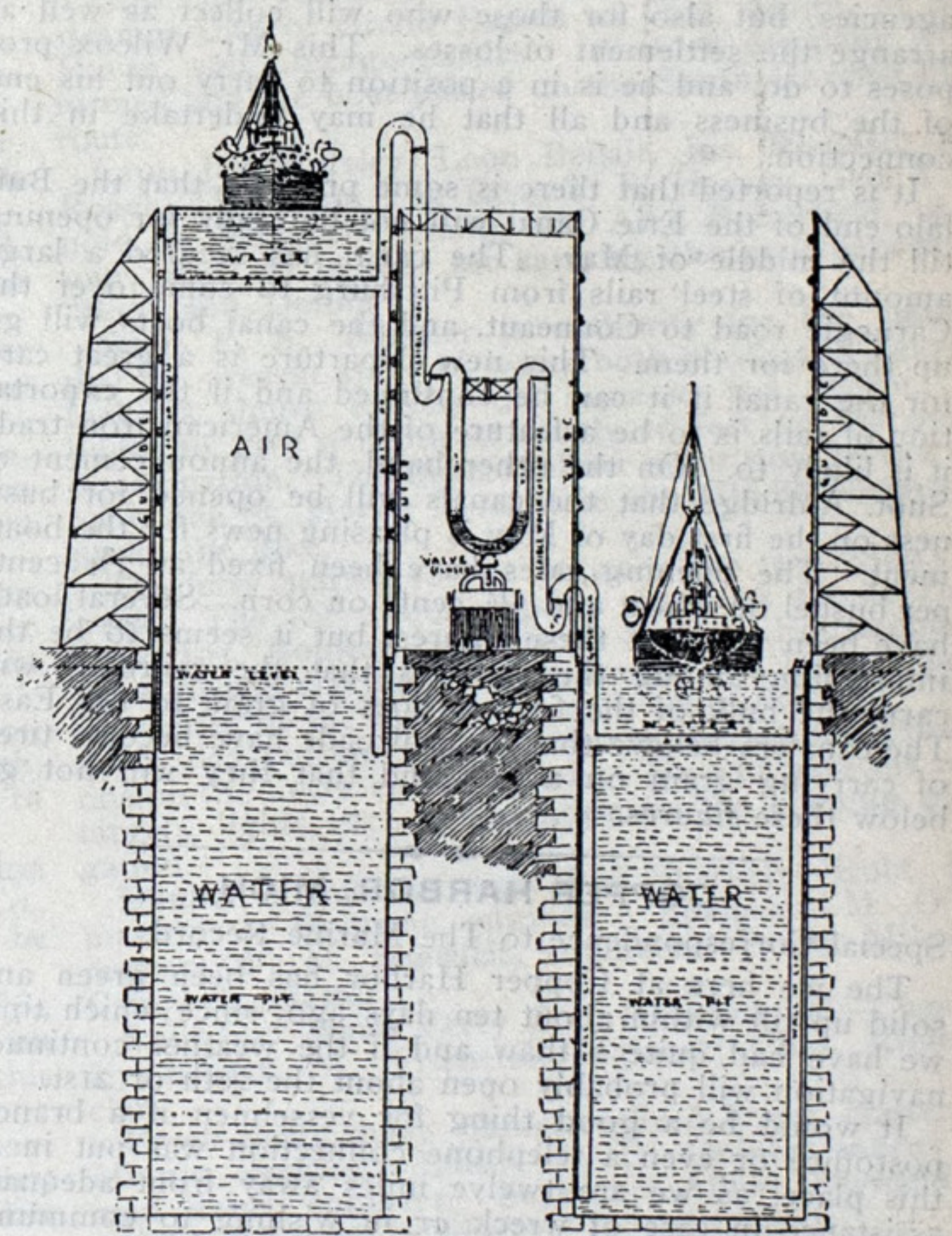
PROPOSED PNEUMATIC BALANCE LOCK FOR THE NEW NIAGARA OR WELLAND CANAL.

(Illustrated.)

Much has been said and written about the delays and dangers incurred in locking through the two or threescore locks necessary to move a vessel from the lake to tide-water.

A Pittsburgh engineer, Mr. C. N. Dutton, advances what at this stage of the proceedings seems to be an extravagant notion although perhaps founded on strictly engineering and mechanical logic. Mr. Dutton, in trying to encompass the passage around Niagara, contemplates the construction of a gigantic canal with two locks, each lifting 160 feet and having a still greater depth of tank, so as to form watertight and airtight compartments more than 320 feet high, in which ships 600 feet long and carrying 12,000 tons of freight are to be lifted and lowered like feathers! The following extracts from an article in Harper's Weekly, with the illustration reproduced from the same source, will give the idea of this invention:

"The whole project, bold as it is in its every aspect, rests upon the simplest of mechanical devices. The pneumatic-balance lock deserves a more extended description than I can afford it here. Put in the simplest way, each lock is nothing more than two huge tanks, built of steel, and put bottom to bottom. One of the tandem locks proposed at Niagara will serve as an example. It is primarily an immense steel caisson of tank structure working up and down in a water-well or pit formed in the lower level of the canal. The lock per se will be a tank 65 feet wide, 510 feet long, and hold about 26 feet of water. The lift here will be 160 feet. Now conceive that the walls of this



big tank are extended downward so as to make the total height rather more than the height of the lift, forming another huge box opening downward, and you will have a very fair idea of the mechanical construction. The lower box will be filled with compressed air and will be sunk in a deep well in the bottom of the canal. Thus immersed, the water forms a natural seal. This lock will be connected with another of exactly similar construction, placed about 1,000 feet away, by pipe or conduit 21 feet in diameter. This pipe, where it connects immediately with the locks, is flexible (moves up and down with the latter, and looks like nothing so much as a monster elephant's trunk. The amount of compressed air in the two tanks is stationary, and with the same amount of water in each of the upper tanks, the lock proper, the two are balanced very much like a pair of scale beams, compressed air taking the place of the scale balance. When one of the two locks is raised the other is depressed. It follows, therefore, that if a little more water is let into the tank of the upper lock, the balance will be displaced, causing the upper lock to sink, and forcing the compressed air through the conduit into the other air-chamber, with the result of forcing the lower lock to rise. The compressed air flows rapidly

(CONTINUED ON PAGE 10.)

WORK ON CONNEAUT HARBOR.

The accompanying diagram gives a fair idea of the plans of Jared A. Smith, Col., corps of engineers, U. S. A., for the improvement of the harbor at Conneaut, O., which, when completed, will make that port one of the safest on Lake Erie. Capt. Q. Gilmore, inspector of construction, has already started on the preliminary work. Men are engaged cutting about 300 cords of brush for mattress

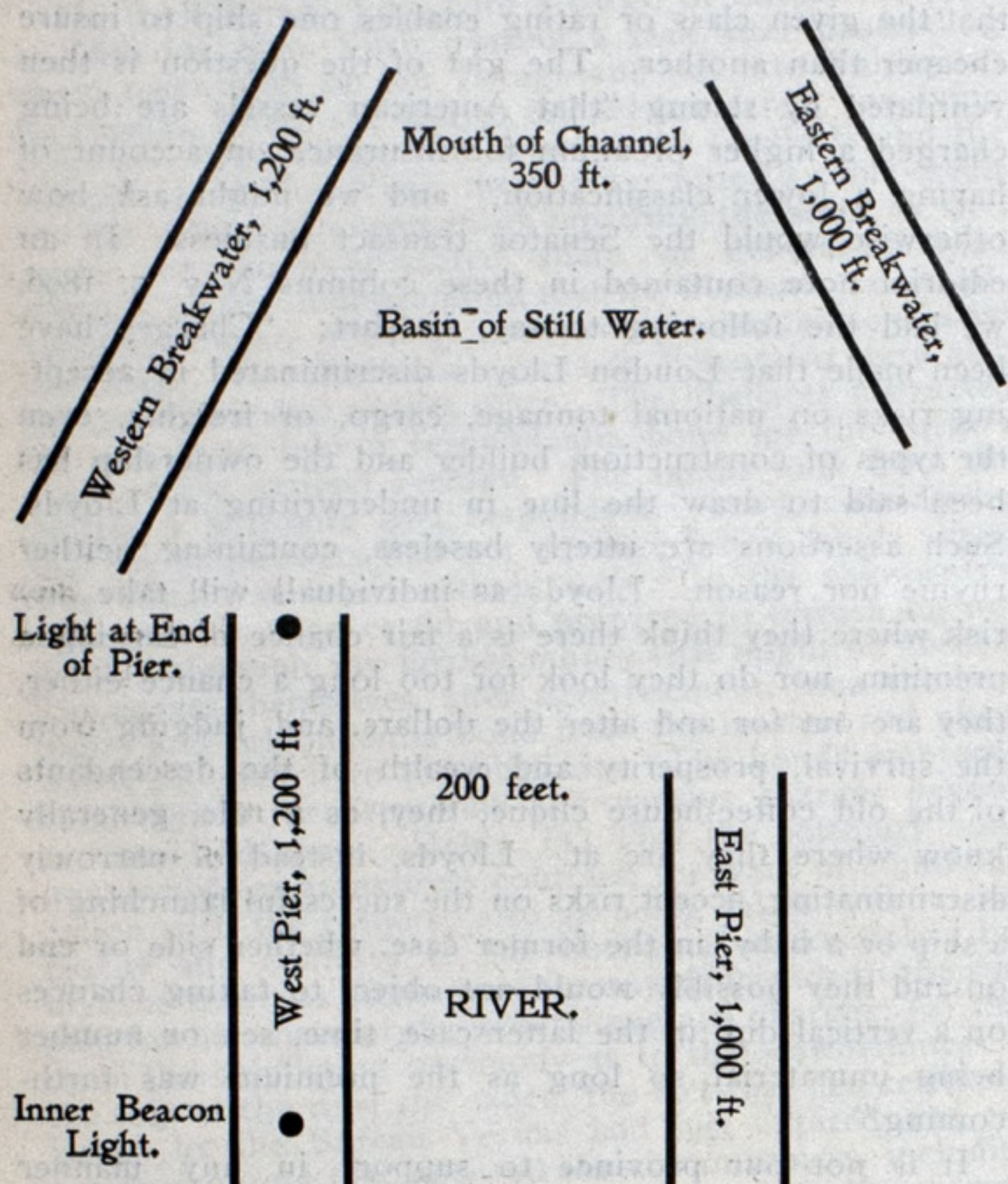


DIAGRAM OF PROPOSED BREAKWATER AT CONNEAUT HARBOR.

work and timber for the construction of cribs will be brought down from Michigan ports when navigation has fairly opened. These cribs will be sunk in four to five fathoms and the construction will be carefully carried on throughout.

RECENT MARINE PATENTS.

576,169. Screw-Propeller. Philip D. Stead, Pelhamville, N. Y.

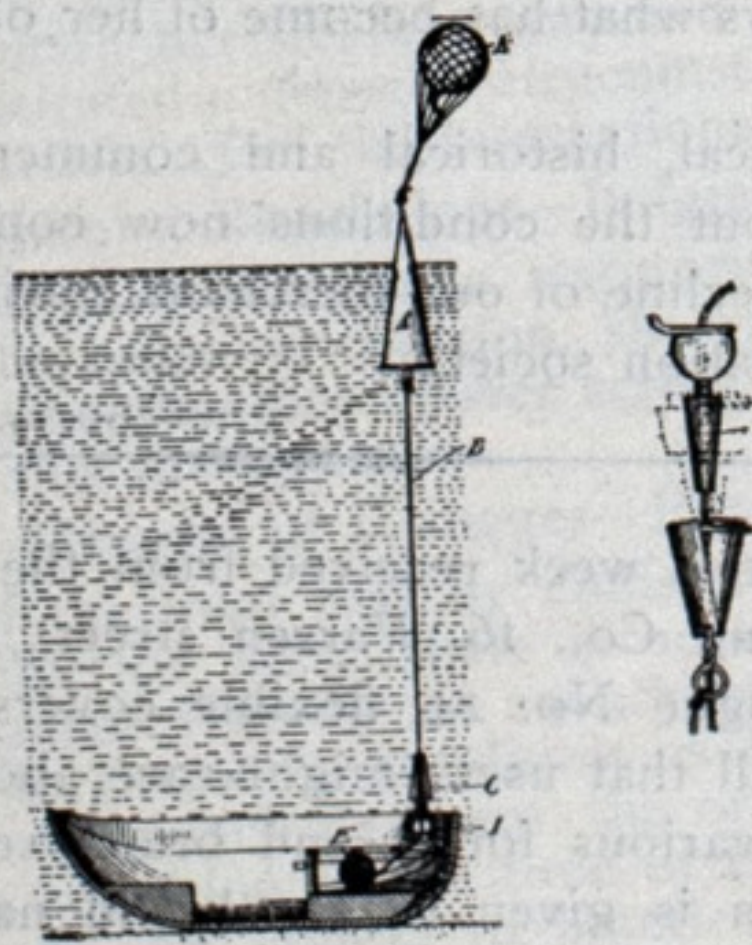
Claim.—A screw-propeller having two diametrically-opposed blades, consisting of a relatively flat part at the rear, in a longitudinal plane of the axis, from which flat



part the opposite blades extend forward helically along the axis, the pitch and diameter of the blades gradually increasing from their rear ends.

579,548. Device for Locating Sunken Boats. Albert H. Pierce, Hillsdale, Mich.

Claim.—In an apparatus for locating or recovering sunken boats, the combination of the shouldered cone-shaped eye C having an orifice through it, said cone-shaped eye

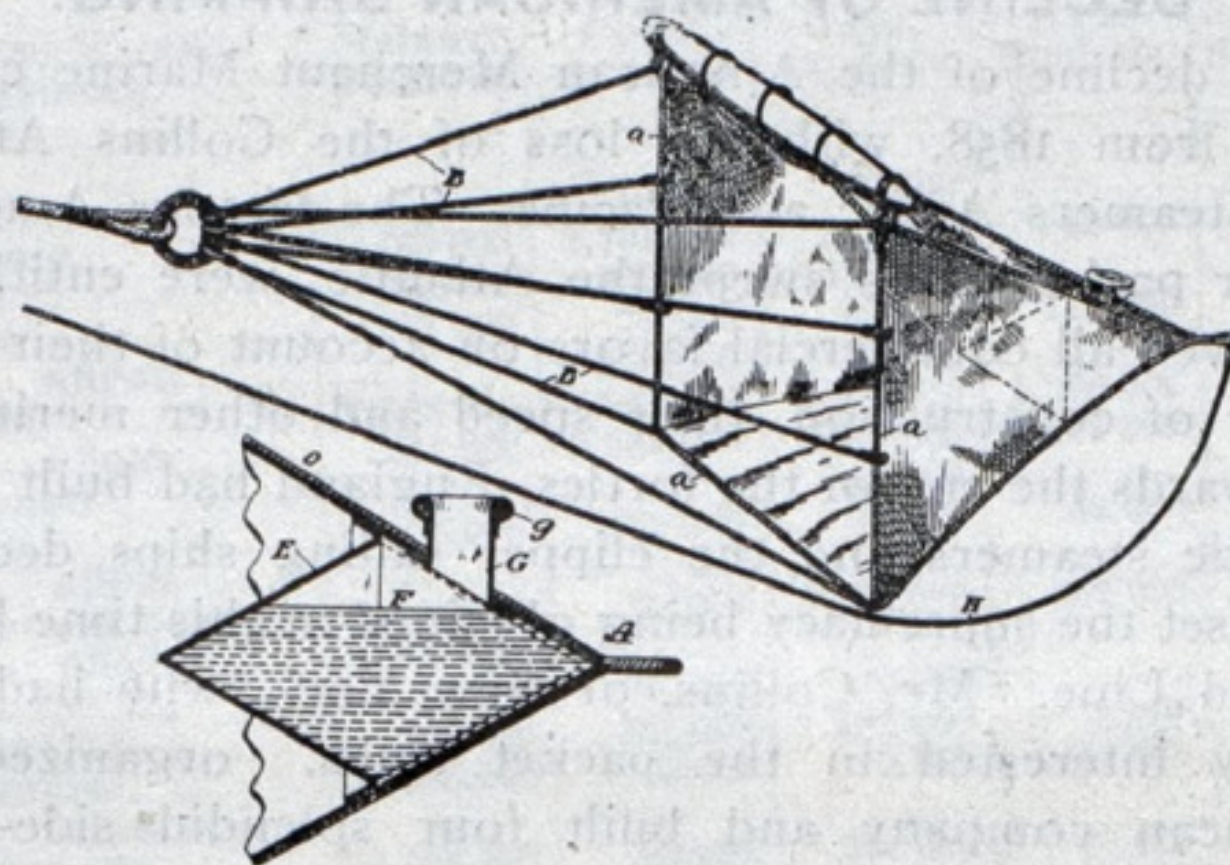


being fastened to the boat, the rope B, passed up through said orifice, a signal attached to said rope and adapted to rise to or above the surface of the surface of the water, a grappling-clamp F having two pivotally-connected jaws each having a heavy flange on the inside of its base, said clamp being adapted to be run down on the rope and engage the shoulder of the cone-shaped eye, the ring G also

being adapted to be run down on the ropes B and H and onto the grappling-clamp to hold the jaws of the clamp firmly in place, and the cable H attached to the ring at the top of the grappling-clamp.

578,562. Marine Drag. William H. Hart, Brooklyn, N. Y.

Claim.—A marine drag having an open mouth and flexible walls of canvas capable of being distended by the pressure of the water when put overboard, an oil-chamber constituting a permanent part of the drag formed within the interior thereof and having a flexible wall against



which the pressure of the water acting within the drag is exerted to expel the oil from the oil-chamber. A drag tapering from the mouth to the rear end and having a

TABLE FOR FINDING THE DISTANCE OF AN OBJECT BY TWO BEARINGS AND THE DISTANCE RUN BETWEEN THEM.

POINTS.		DIFFERENCE BETWEEN THE COURSE AND THE FIRST BEARING—POINTS.																	
		2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½
DIFFERENCE BETWEEN THE COURSE AND THE SECOND BEARING.	4	1 00																	
	4½	0 81	1 23																
	5	0 69	1 00	1 45															
	5½	0 60	0 85	1 17	1 66														
	6	0 54	0 74	1 00	1 35	1 85													
	6½	0 49	0 67	0 88	1 14	1 50	2 02												
	7	0 46	0 61	0 79	1 00	1 27	1 64	2 17											
	7½	0 43	0 57	0 72	0 90	1 11	1 39	1 77	2 30										
	8	0 41	0 53	0 67	0 82	1 00	1 22	1 50	1 87	2 41									
	8½	0 40	0 51	0 63	0 76	0 92	1 09	1 31	1 58	1 96	2 50								
	9	0 39	0 49	0 60	0 72	0 85	1 00	1 18	1 39	1 66	2 03	2 56							
	9½	0 38	0 48	0 58	0 69	0 80	0 93	1 08	1 25	1 46	1 72	2 08	2 60						
	10	0 38	0 47	0 57	0 66	0 76	0 88	1 00	1 14	1 31	1 51	1 76	2 11	2 61					
	10½	0 38	0 47	0 56	0 65	0 74	0 84	0 94	1 06	1 19	1 35	1 55	1 79	2 12	2 60				
	11	0 39	0 47	0 56	0 64	0 72	0 81	0 90	1 00	1 11	1 24	1 39	1 57	1 80	2 11	2 56			
11½	0 40	0 48	0 56	0 63	0 71	0 79	0 87	0 95	1 05	1 15	1 27	1 41	1 58	1 79	2 08	2 50			
12	0 41	0 49	0 57	0 64	0 71	0 78	0 85	0 92	1 00	1 08	1 18	1 29	1 41	1 57	1 76	2 03	2 41		
12½	0 43	0 51	0 58	0 65	0 71	0 77	0 83	0 90	0 97	1 03	1 11	1 20	1 29	1 41	1 55	1 72	1 96	2 30	

RULE.—Multiply the distance run in the interval between the two bearings by the number found in the table under the difference between the course and first bearing, and opposite the difference between the course and second bearing. The product is the distance at the time the second bearing was taken.

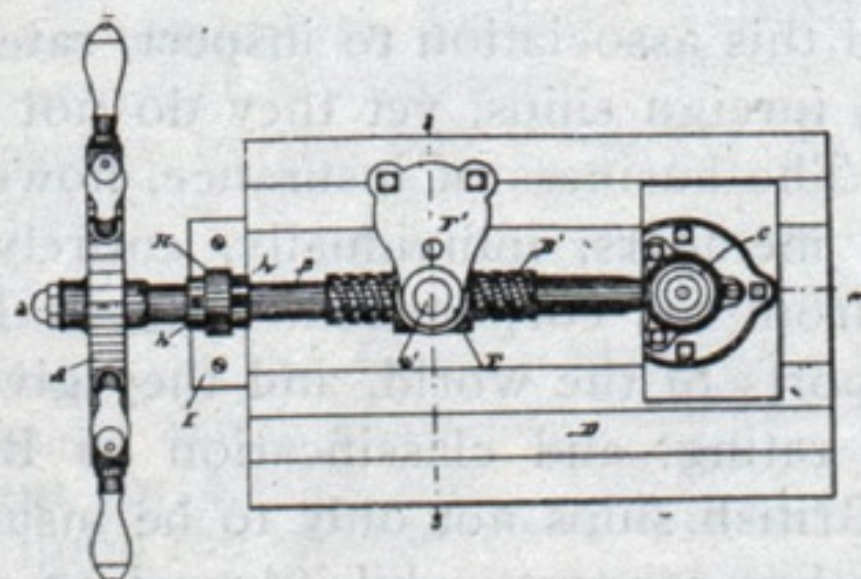
EXAMPLE.—A light-house, when first seen, bore W. N. W.; after running W. by S. 16 miles, it bore N. ½ W. Required, its distance when the second bearing was taken.

Difference between course and first bearing, —3 points.
Difference between course and second bearing, —8½ points.
Corresponding tabular number, —0.63
And 16 miles multiplied by 0.63 miles, —10.08 miles, the distance required.

flexible transverse partition therein of approximately the shape and dimensions of the drag between such partition and the end thereof, whereby the pressure of the water within the drag is exerted upon the partition to gradually force the flexible partition back into the end of the drag forming the oil-chamber to thereby expel the oil.

577,931. Ship's Steering Apparatus. Charles H. Richardson, Gloucester, Mass.

Claim.—The herein-described steering apparatus consisting of a wheel-shaft B universally jointed or pivoted at its rear end and having a screw-threaded portion B engaging



a nut E pivotally connected to the rudder-post and a roller H journaled on said shaft and adapted to be supported on a stationary rail or plate.

A SOUTHERN OUTLET TO THE COAST.

In the Record of February 25, we referred to the short cut from the Missouri valley and the great Southwest to

Port Arthur, Galveston and New Orleans, in the effort to reach the Gulf of Mexico and the ocean trade beyond. The alarm has been sounded that this connection would injure the lake trade and especially the city of Buffalo by turning a vast amount of traffic to the new short cut to the Atlantic Coast.

The new line, the Kansas City, Pittsburg & Gulf railway, has just been completed to Shreveport, La., 560 miles south of Kansas City. The connections beyond Shreveport will be closed about the 1st of May, when freight and passenger trains will run through between Kansas City and Port Arthur on the gulf. It is expected to run freight trains between Kansas City and Shreveport in forty-eight hours. It now takes from five to seven days to transport freight there, unless special service is given. Arrangements will also be made to quote through rates from Kansas City to all parts of Europe, South America and Mexico.

Now let us examine the distances. The Kansas City, Pittsburg & Gulf Railroad, when completed, will be the shortest route from Kansas City to the Gulf by over 100 miles, which will enable this road to make even lower rates than are now made by the lines from the Missouri river to either New Orleans or Galveston. The distance by the new road from Kansas City to Port Arthur will be 767 miles. From Kansas City to New Orleans it is 878 miles, and from Kansas City to New York 1,303 miles. The Chicago Tribune, commenting on the competition

of the Pittsburg & Gulf Railway to Port Arthur, says:

"Fresh danger threatens the lines between the Missouri River and New York. Active as the Gulf competition has been during the past two years, it will become still more energetic within a few weeks. The Kansas City, Pittsburg & Gulf Railroad expects to open its entire line from Kansas City through to Port Arthur, Tex. (Sabine Pass), about May 1.

"Port Arthur is destined to become a more important port on the Gulf of Mexico than either New Orleans or Galveston. It enjoys many advantages not possessed by the other Gulf ports. It has the advantage of a deep water harbor that will accommodate the largest ocean steamships. From soundings taken the least depth in the dredged channel of Sabine Pass was 24.1 feet at mean low water. The depths ranged from 24.1 to 28.7 feet. Additional appropriations have been made by congress, and more are expected in the future, which will bring the depth of this channel to 26 feet or more."

There is not in the April number of Cassier's Magazine an uninteresting topic. The writers on these topics are all experts and specialists in their various lines, and the subjects treated are electric traction in city streets, ship-building in Great Britain, the metric system from a mechanical point of view, an artificial ice skating rink, steam engines for modern power houses, a ten-ton pneumatic traveling crane, commerce on the great lakes, the ideal engine lathe, modern methods of electric energy transmission and current topics.



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PRIORITY OF LIEN.

From all of the recent decisions relative to priority of lien on a vessel, it would appear that neither a vessel or her owners can be held responsible for services performed in connection with a vessel's business, unless they have an actual relation to the loading, delivery, or the direct furtherance of the voyage.

The port charges, therefore, for brokerage, transacting ship's business, clearings, disbursements, etc., have been found to have no distinct standing in the United States admiralty courts, and the agreement of a person or firm negotiating a charter for the employment of a vessel does not render the vessel or owners liable to recompense the negotiator. Unless documental evidence of a different nature can be produced the person negotiating a charter can not libel a vessel for services rendered.

Notwithstanding the above a charter itself, when properly attested, is both legal and binding in the light of a maritime contract, and on these grounds alone have the admiralty courts jurisdiction over the charterers, captains and owners. It is more than likely that a person acting as agent and being instrumental in the placing of a charter would expect that he had every legal right on his side in levying and collecting a commission for services rendered to the ship and owners; yet such is not the legal aspect of the case, for in a recent decision in admiralty the court ruled that the business of negotiating a charter, was a preliminary and not in any sense a maritime service or contract; hence, the court had no jurisdiction to award the broker compensation for his services. As has been said, if the broker of a charter party be admitted, the insurance broker must follow the drayman, the expressman and all others who perform services having reference to a voyage either in contemplation or executed, and in the case of a dry dock, stevedores or shipkeeper's services no maritime lien is created and the local fact has been placed on record that a shipwright has no lien after the vessel has passed out of his hands. Yet, on the other hand, no undue weight must be placed on the assertion that the vessel and owners are not liable; for supplies and all expenses necessary to fulfill an agreement once entered into; and while the vessel is prosecuting her voyage she is distinctly liable for all incidental expenses and other charges incurred with the view of bringing or taking the vessel to a port of destination, for even her bottom may be pledged, and a bottomry bond executed, with the gratifying knowledge that the last bond granted, must be the first paid as it is argued that whatever may have been laid out previously, it is the last advance that ultimately saves the ship, cargo and freight. Yet the question

of preliminary services still remains in abeyance, and until our merchant marine becomes re-established, in sufficient numbers to carry on a large commercial intercourse, we presume that no legislation will be turned towards the present unsatisfactory state of the broker's compensation, in a legal point of view. Of the few foreign going ships that we have now afloat, the masters in many cases may transact all of their land business, and on the lakes the owners have their property always at hand.

DECLINE OF AMERICAN SHIPPING.

The decline of the American Merchant Marine can be dated from 1858, with the loss of the Collins Atlantic Line steamers Arctic and Pacific. The famous American clipper packet ships swept the Atlantic, were entitled to and given all commercial favors on account of their superiority of construction, their speed and other merits.

Towards the end of the forties, England had built trans-Atlantic steamers and the clipper sailing ships declined. To offset the supremacy being obtained at this time by the Cunard Line. Mr. Collins, of New York, who had been largely interested in the packet ships, organized an American company and built four splendid side-wheel steamers, the Arctic, Atlantic, Pacific and Baltic, vessels altogether, superior to the Cunard liners, the Pacific making the run from New York to Holyhead, near Liverpool, and arriving off that port May 20, 1851, in the unprecedented time of 9 days, 19 hours and 25 minutes, thus did the American or Collins Line again lower the English flag in steam as had been previously attained by the use of finer models under canvas.

Both lines were heavily subsidized by their respective governments and were building up a large trade, (as we presume it is true that trade follows the flag) with the American line well in the lead. The owners of American sailing ships feeling that the government was doing too much for the Collins Line and seeing that their trade was gradually slipping out of their hands, raised an outcry, stopped the subsidy and with the loss of two steamers the Collins Line had to go under, thus leaving the English masters of the Atlantic again, other British subsidized lines were then established, the propeller wheel and iron ships commenced to be built and the wiping out of our sailing merchant tonnage during the late war completed the destruction of the oversea carrying trade in American bottoms.

It is the custom just now to go hunting around for all sorts of reasons and excuses for the decline of the oversea carrying trade and the most foolish causes are ignorantly assigned for the original and continuous loss of commercial prestige while the simple facts remain that it was primarily caused by the change from sail to steam, the advent of iron instead of wooden vessels and remotely so by withdrawing the subsidy from the Collins Line. A member of the British Parliament, Hon. J. Henniker Heaton, said in 1894, in the North American Review:

"As a consequence of refusing \$5,000,000 a year in subsidies during thirty years to native shipowners, or \$150,000,000, the United States had to pay in the same period no less than \$3,000,000,000 for freights, while their mercantile marine dwindled into insignificance."

No less a mark than Senator Stephen B. Elkins, of West Virginia, in a very lengthy speech in the Senate last week, quoted authority upon authority and endorses their views in asseverating that the British Lloyd's system of surveys and classification discriminates in favor of British built vessels, furthermore, "That for the last sixty or seventy years it has been one of the chief agencies in breaking down United States shipping. While it is the business of this association to inspect, rate, and classify British and foreign ships, yet they do not insure hulls and cargoes. The business of insurance, however, is conducted by its members, individually, entirely outside of and separate from the corporation. Lloyd's Register has agents in all ports of the world, and they give preference in inspection, rating, and classification to British ships. This enables British ships not only to be insured cheaper, but to get readier cargoes, while American vessels have to wait for cargoes which are charged higher insurance on account of the ships having a lower classification. Through this system of inspecting, rating, and insurance American sailing vessels have been driven out of many ports of the world, especially our own, both on the Atlantic and the Pacific coasts. There are instances, owing to these discriminations, where American vessels have waited months for cargoes."

From the foregoing literal quotation it may be seen that the Senator contradicts himself several times in as many lines. While admitting the class for foreign ships, which by the way, they are only too glad to accept, he says the compilers of the Register do not insure hulls and cargoes, he might also have added freights, or anything else in a maritime connection, and yet it is stated that the given class or rating enables one ship to insure cheaper than another. The gist of the question is then ventilated by stating "that American vessels are being charged a higher premium for insurance on account of having a lower classification," and we might ask how otherwise would the Senator transact business. In an editorial note contained in these columns Nov. 5, 1896, we had the following to say, in part: "Charges have been made that London Lloyds discriminated in accepting risks on national tonnage, cargo, or freights, even the types of construction, builder and the ownership has been said to draw the line in underwriting at Lloyd's. Such assertions are utterly baseless, containing neither rhyme nor reason. Lloyd's as individuals will take any risk where they think there is a fair chance of earning a premium, nor do they look for too long a chance either, they are out for and after the dollars, and, judging from the survival, prosperity and wealth of the descendants of the old coffee-house clique, they, as a rule, generally know where they are at. Lloyd's, instead of narrowly discriminating, accept risks on the successful launching of a ship or a baby, in the former case, whether side or end on and they possibly would not object to taking chances on a vertical dip, in the latter case, time, sex or number being immaterial so long as the premium was forthcoming."

It is not our province to support in any manner "Lloyd's Register of British and Foreign Shipping," there being equally as good a classification in the United States, known as the "Record of American and Foreign Shipping," published by the American Shipmasters' Association of New York and widely acknowledged as the American standard. The foregoing has been penned to partly eradicate if possible some ill conceived and heralded notions of the connection between the compilers of a simple shipping list contained in an otherwise technical volume and a distinct body of highly respected individual underwriters, many of which if not all "are like Caesar's wife," above reproach and loaded down to the scuppers with commercial morality, otherwise they could not retain their seats in the association known as Lloyd's.

We have not space to go further into this question at the present and in conclusion would call the Senator's attention to the fact that the much maligned London Lloyd's have for the past year or two entered the lake insurance business, and without any class or rating discounted domestic companies by taking risks on American bottoms, freight, cargoes, launchings, etc., much to the satisfaction of the assured. This country has been attending to internal developments during the past half century, England has been carrying out her colonizing projects during the same time, gaining half of the oversea commerce as a water link to her stationary though distant industrial connections. The United States now awakens up to the value of a carrying trade and in stupid amazement wonders what has become of her old clippers of fifty years ago.

Geographical, historical and commercial causes have brought about the conditions now confronting us relative to the decline of our merchant marine and not a foreign classification society.

We have this week received from the Peerless Rubber Manufacturing Co., 16 Warren street, New York, illustrated catalogue No. 24, flexible covers, 120 pages, and containing all that users might care about knowing relative to the various forms and brands of packing. Special attention is given to the brand named "Rainbow." The policy of the company has been and is to maintain quality under all conditions, equipping their factories with the latest and best machinery and employing the most skilled labor, this method has placed the Peerless in the front rank of manufacturers of rubber goods. The company was founded in 1872 and their general superintendent, Mr. Deming, has had thirty-four years continuous experience in the manufacture of rubber goods. He is therefore without a peer, as the company freely acknowledges.

MARITIME LAW.

THE MAUNA LOA.

GRACE et al vs. THE MAUNA LOA.

(District Court, S. D. New York, July 1, 1896.)

Bottomry and Respondentia Bond Invalid, as Unnecessary and Without Communication—Port of Refuge—Repair of Ship—Seaworthiness Upheld—Bureau Veritas Certificate—General Average.

The bark Mauna Loa, with a cargo of nitrates shipped at Chili for New York, sprung a leak after proceeding about 1,500 miles on her voyage and put into Valparaiso for repairs, where she had to unload her cargo, involving some loss; by arrangement between the libellants and the shipowners at New York, the latter remitted a cable credit for the estimated expenses of repairing the ship, as well as for the ship's estimated share of general average charges, on the understanding that the libellants would advance their share of the general average chargeable against the cargo. The libellants' agents at Valparaiso were also agents of the ship at that place. The libellants instructed the agents to take a respondentia bond for the cargo's share of the general average. The agents took from the master a bottomry and respondentia bond, considering that the shipowners had not advanced their whole share. The bond was taken without notice to the shipowners, who were in good credit and prepared to furnish on notice by telegraph any further money that might be needed. The agents themselves, after advertisement, took the bottomry and respondentia bond from the master, and afterwards assigned it to the libellants. The bonds embraced about \$3,000 for premiums and various charges beyond the actual advances. Held: (1) That the bottomry bond was invalid, as an express contract, for want of communication with the owners; also as being taken without necessity and contrary to the libellants' instructions; but that the ship was answerable for any deficiency in the sum paid for her share of the general average charges; (2) that upon the conflicting testimony as to the seaworthiness of the ship at the time she sailed, the fact that her certificate issued by the Bureau Veritas had just expired was not conclusive; and that upon all the circumstances, including the contemporaneous judgment at Valparaiso, the seaworthiness of the vessel should be sustained; and that the cost of putting in to Valparaiso and of unloading the cargo were, therefore, valid charges in general average.

Brown, District Judge.

THE H. F. DIMOCK.

METROPOLITAN S. S. CO. vs. VANDERBILT et al.

VANDERBILT vs. METROPOLITAN S. S. CO.

(Circuit Court of Appeals, First Circuit. September 16, 1896.)

Nos. 148 and 149.

Collision—Narrow Channel—Fog—Excessive Speed.

A steamer passing through a narrow and much used thoroughfare in a dense fog must slow down to such speed as is consistent with the safety of other vessels navigating the channel; and if such speed does not afford sufficient steerage way, she should come to anchor. The Pennsylvania, 10 Wall. 125; The Nacoochee, 11 Sup. Ct. 122, 137 U. S. 330; The Martello, 14 Sup. Ct. 723, 153 U. S. 64 followed.

Same—Vessel at Anchor in Channel.

If a steamer going at dangerous speed in a narrow channel in a dense fog collides with an anchored vessel, she is not relieved from liability by the fact that the latter was anchored in the channel, having come to anchor because of the fog.

Same—Steerage Way.

A steamer which enters a narrow thoroughfare in a dense fog instead of waiting for the fog to lift, cannot excuse herself for maintaining a dangerous rate of speed therein on the ground that such speed was necessary in order to maintain her steerage way and courses, and that this fact constituted a "special circumstance," within the meaning of article 23 of the international rules.

Same—Statutory Regulations—Judgment of Master.

Where non-observance of a statutory regulation by a steamer is the cause of collision, she cannot be excused from liability because her master acted with honest judgment under the circumstances.

Same—Measure of Damages—Pleasure Yacht.

In case of the total loss by collision of an expensive pleasure yacht, for which there is no established market value, the damages should be such as will put the owner pecuniarily in the same condition as before the injury; and in estimating such damages, the original price of the ship and its condition at the time of the loss, should all be considered. An inquiry of practical value would be, what amount a person of sufficient means, desiring to acquire a yacht of her size and character, might reasonably be expected to be willing to pay for the same rather than incur the cost of a new structure, considering nevertheless, the inducements to secure the new, by reason of probable improvements and other advantages which the new offers.

Same—Costs.

In a suit to determine the liability of vessels in collision, the court can make no order in respect to the costs incurred in an original proceeding in the supreme court to

prohibit the court having cognizance of the collision suit from entertaining jurisdiction thereof, the writ of prohibition having been denied.

Same—Stipulation in Limited Liability Proceedings.

A vessel owner who, in proceedings for limitations of liability, desires to give a stipulation in lieu of transferring the vessel to a trustee, must pay the taxable costs incident to giving the stipulation, including the expense of making the appraisal.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT, Bushels.	CORN, Bushels.	OATS, Bushels.	RYE, Bushels.	BARLEY, Bushels.
Albany		40,000	50,000		
Baltimore	463,000	2,701,000	142,000	82,000	
Boston	215,000	839,000	178,000		
Buffalo	587,000	72,000	67,000	113,000	526,000
" afloat		113,000	81,000		
Chicago	9,683,000	7,965,000	5,909,000	1,276,000	156,000
" afloat	351,000	3,991,000	618,000	281,000	97,000
Cincinnati			10,000		48,000
Detroit	255,000	32,000	22,000	37,000	16,000
" afloat					
Duluth and Superior	6,666,000	52,000	2,122,000	895,000	1,313,000
" afloat	918,000				
Indianapolis	74,000	53,000	1,000		
Kansas City	201,000	163,000	182,000	5,000	
Milwaukee	205,000	3,000	9,000	457,000	69,000
" afloat					95,000
Minneapolis	14,159,000	93,000	961,000	37,000	93,000
Montreal	516,000	21,000	837,000	74,000	42,000
New York	1,115,000	3,642,000	1,745,000	246,000	122,000
" afloat	399,000	33,000			22,000
Oswego	7,000				33,000
Peoria	25,000	98,000	42,000	8,000	19,000
Philadelphia	167,000	1,412,000	30,000		
St. Louis	444,000	997,000	129,000	18,000	12,000
" afloat		257,000	35,000		
Toledo	935,000	1,855,000	47,000	113,000	
" afloat					
Toronto	156,000		63,000		42,000
On Canal					
On Lakes	165,000	285,000			
On Mississippi		250,000	7,000		
Grand Total	37,706,000	24,967,000	13,287,000	3,642,000	2,705,000
Corresponding Date 1896	59,330,000	16,847,000	9,250,000	1,509,000	1,099,000

THE MARINE RECORD AT HOME AND ABROAD.

One of the best known shipbuilders on the lakes writes the Marine Record as follows. "We enclose you herewith letter just received from Colombo, Ceylon. * * * This letter certainly shows that the Record has carried our name a long ways from home." The letter reads verbatim as printed, minus the name, which, however, we hold at our service.

Gentlemen: I am indebted for your address to The Marine Record and I am glad to notice you are ship builders.

A trading company here, of which I am myself a partner, purpose having two wooden vessels built or got out from England or America. This would of course entail much expense, and for our information I shall be glad to know if you will be able to send out an expert to undertake the building of same either at Rangoon or here, we will of course supply all the necessary articles, and laborers and shall be glad to know what his salary would be per month, we undertake to pay his passage from America to this port. You will have to supply designs according to our requirements, instructions for which will be sent you. Awaiting your news, and thanking you in anticipation, I remain, yours faithfully.

In addition to the foregoing we hear this week from the highest authority in matters maritime in the United States the following panegyric:

"That I have attained any measure of success is due much to the fact that I have had excellent advisers. * * * Among those advisers on marine matters has been your admirable paper (every issue of which I have read through) * * * and I assure the Record that I am sincere in every word that I utter and feel that I have not fully expressed myself as I would wish to do.

TRADE NOTE.

Bids on the 8,000 tons of armor plate needed for the three new battleships Alabama, Illinois and Wisconsin are to be opened at Washington Thursday afternoon, April 8. The passage by the last Congress in its closing hours of the proviso in the naval bill that \$300 be the maximum paid for armor plate, and that failing to secure such a bid steps be taken to buy or build an armor plate works. President Gates, of the Illinois Steel Co., is quoted as saying: "We know armor plate can be made and sold to the government for \$300 a ton. The prediction has been made, based upon the statements of representatives of these companies, to the Senate investigating committee, as to the impossibility of manufacturing armor plate at a profit even at \$400 a ton, and neither the Carnegie Steel Co., Ltd., nor the Bethlehem Iron Co. will bid at all under the \$300 restriction. If this proves to be the case and the expected bid of the Illinois Steel Co. at \$300 is received, the question would then come up as to the ability of the company to furnish the armor within the time limit stipulated.

THE FIRST SCREW STEAMER.

The wonderfully rapid development of the modern twin-screw ocean greyhounds makes the fate and history of the first screw steamer that crossed the ocean peculiarly interesting. Employed as a hulk in Port Stanley, Falkland Islands, is all that is left of the steamship Great Britain, which arrived in New York on August 10, 1845, on her maiden trip from Liverpool, making the passage from port to port in fifteen days.

The Great Britain was built of iron, and was launched in Bristol in July, 1843. The driving power was an Archimedean screw of six blades, with a diameter of 15 feet 6 inches. The screw was driven by chain gearing on the shaft, and the engines developed 1,500 horse power. Steam was supplied by three tubeless boilers, at a pressure of twenty-five pounds. The principal dimensions of the vessel were: Length, 322 feet; beam, 48 feet; depth, 31 feet 6 inches, and her tonnage was 3,270. In those days sail power was very necessary as an aid to steam, and, with only one funnel, the Great Britain was originally fitted with six masts, all of them, except the main, being fore-and-aft rigged.

By a singular oversight she was launched into a dock, the entrance to which would not permit the then great ship to pass out, so that she was kept in compulsory idleness for over a year, when one side of the dock entrance was removed and the ship liberated. On her third voyage to New York she ran ashore on the coast of Ireland and remained fast a year, but, receiving little damage, was repaired and resumed her trans-Atlantic passages until 1853. She was then supplied with new engines and entirely changed into a four-masted bark. After this change she left the western ocean and became famous as a trader on the Liverpool and Melbourne route. She made her passages with much regularity and safety, and even today the name of the Great Britain is a household word in the older Australian colonies.

After years in the Australian trade she was cleared of her engines and boilers, which had become obsolete, and changed to a full-rigged ship; she was also sheathed with wood from her keel to above the water line, and this again sheathed over with zinc. She made her first voyage as a sailing ship in 1883 to San Francisco, and continued on that route until 1886 with a cargo of coal for Panama, and, encountering bad weather, the good old ship lost fore and main topmasts and shifted her cargo. She got into Port Stanley in the Falkland Islands, and, being disabled, leaking, and in a place where repairs are almost out of the question, was condemned and converted into a hulk. It is a question whether the modern fast steamers will be as useful after over fifty years' hard service as the old Great Britain. The writer was in Port Stanley when the good old ship was condemned.

A NOTICE.

Capt. George A. Zinn, Corps of Engineers, U. S. A., gives notice that the lightship has been replaced, April 15, 1897, at the south end of the unfinished breakwater, Milwaukee Bay, at the expense of the engineer department.

An interesting article on "Commerce on the Great American Lakes," prepared by Mr. John Birkinbine, appears in the April Cassier's Magazine. It is authoritative in statement and attractive in illustration.

Mr. Walter H. Oades is building in Detroit a tug of the following dimensions: 47 feet over all, 39 feet keel, 14 feet beam and 6 feet 10 inches molded depth. She is to have a high pressure engine 14x12; Houghten and French are the owners.

APPOINTMENT OF OFFICERS.

CONTINUED FROM PAGE 5.

George Bohnert, engineer. G. J. Gould—W. M. Cottrell, master; George Butler, engineer.

Alger, Smith & Co., Detroit: Rafting tug Wescott—Peter Hayes, master; Horace Carter, engineer; Joseph Whitsett, fireman.

The Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.: Geo. D. Seymour—George Clifford, master; Hugh Goodheart, engineer. Myra—James Martin, master; C. J. McSorley, engineer. H. B.—M. Rodrigue, master. England—N. Lalvude, master. Ireland—D. Latour, master. Scotland—Louis Sova, master. Aid—T. Lepime, master. James Buckley—I. Lalvude, master. Menominee—Timothy Hunt, master. Henry Witbeck—John Mallett, master. Isaac Stephenson—No appointment. Fred Carney—A. Demers, master. Hoboken—Edward Maloney, master. Argo—H. Newhouse, master.

H. C. BURRELL,

Marine Reporter.

Boat on the river at all hours,
night and day.

Signal: 1 long 2 short.

Our boats are white. We'll
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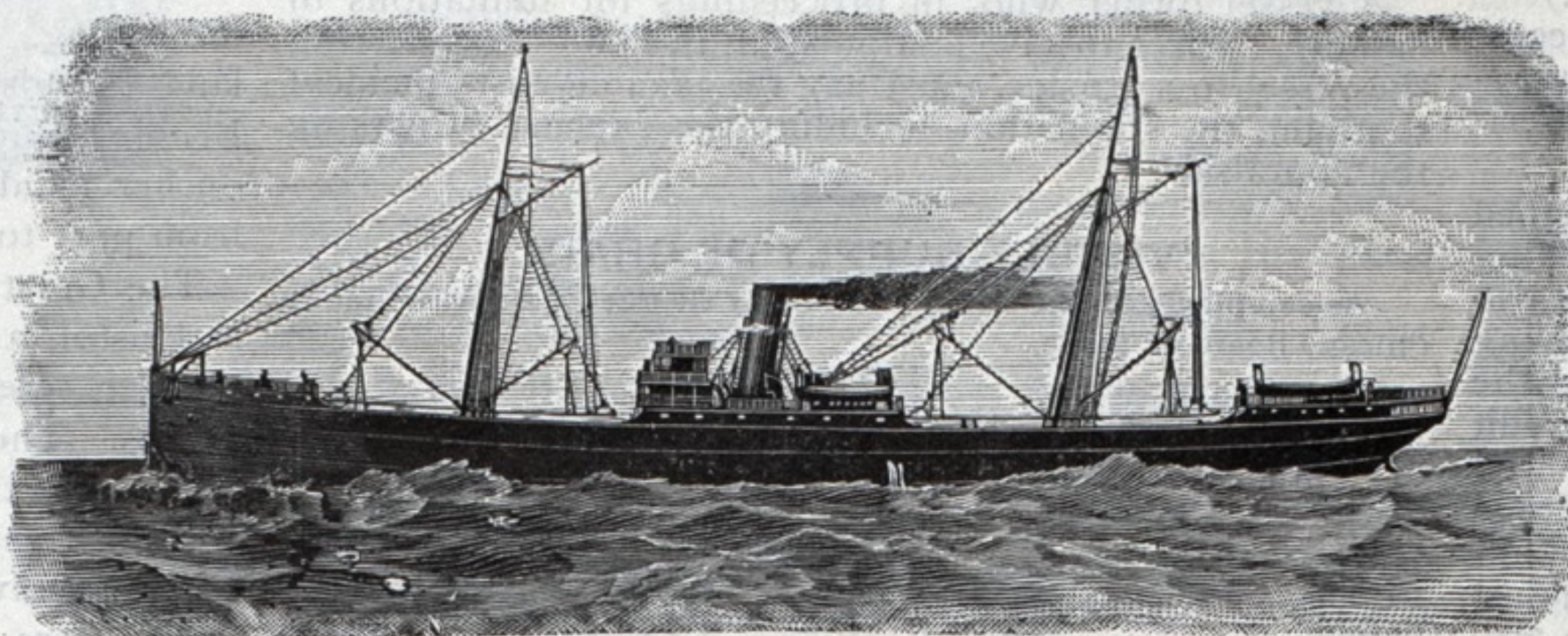
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The best in the market for hatch covers, is stronger, lighter, and more durable than any water-proof goods yet produced. It is made of a twisted thread of pure flax, which renders it very strong. It will not crack like cotton goods, which is a great advantage.

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193-195 Bank St.,
CLEVELAND, O.

202-210 S. Water St.
CHICAGO, ILL.

PROPOSED PNEUMATIC BALANCE LOCK FOR THE NEW NIAGARA OR WELLAND CANAL.

CONTINUED FROM PAGE 6.

from one chamber to the other, and the whole moves as swiftly as is consistent with safety. The whole principle is exactly the same as that of the balance scale, the motion being due to a small difference in the total weights of the water in the two locks. The latter, of course, move up and down, oppositely and synchronously. In place, therefore, of the slow, clumsy, and enormously costly lock system now in use, whereby a vessel is let into the empty lock, the gates closed, and the vessel raised by slowly filling the well, or vice versa, lowering by emptying the well, the new proceeding will be this: A vessel will be let into both the raised and depressed locks, or, in the absence of two vessels, enough water let into the empty tank of the empty lock to about equalize the weight of the other; then enough water let into the upper lock to displace the balance; the compressed-air conduit is opened, the brakes set free, the upper lock sinks, the lower rises, the position of the two is reversed, the gates are opened, the vessel cleared, all in a few minutes.

It requires a more vivid imagination than most people possess to believe that this scheme is mechanically practicable, or that if practicable the millions that it would cost can be provided, or that if built it would ever earn a fraction of the operating expenses.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN
LAKES AND RIVERS—WISCONSIN.

Treasury Department, Office of the Lighthouse Board,
Washington, D. C., April 6, 1897.

STURGEON BAY CANAL.

Notice is hereby given that, on or about April 15, 1897, Southeast Entrance Light, No. 1, Northwest Entrance Light, No. 2, and Northwest Entrance to Cut Light, No. 3, Sturgeon Bay Canal, will be changed from fixed white to fixed red lantern lights. Until a permanent structure is erected for Northwest Entrance to Cut Light, No. 3, the light will be exhibited, at a height of 12 feet above the water, from a white post on a float.

MAUMEE BAY.

INNER END OF STRAIGHT CUT GAS BUOY.

Notice is hereby given that, on the opening of navigation, 1897, a gas buoy, painted red showing a fixed white light, will be moored in the position heretofore occupied by inner end of straight Cut Lighted Buoy, No. 30, on the northwesterly side of the extreme inner end of the Straight Channel, Maumee Bay.

Manhattan Range (front) Light, SW. 7-8 W., about 2,500 feet.

All mariners, and especially those having vessels or rafts in tow, are cautioned to avoid fouling this buoy.

FORTY-MILE POINT LIGHT STATION.

Notice is hereby given that, on or about April 30, 1897, a light of the fourth order, showing a white flash every 10 seconds, will be established in the structure recently erected on Forty-Mile Point, northwesterly part of Lake Huron.

The light will illuminate 315 degrees of the horizon, and will be visible from all points of approach from the lake. The focal plane of the light will be 66 feet above the mean lake level, and the light may be seen 15 3-4 miles in clear weather, the observer's eye 15 feet above the lake.

The light will be shown from a black lantern surmounting a square, red, brick tower, rising in the center of the front of a double, red, brick dwelling, with red roof.

The approximate geographical position of the light, as taken from Chart No. 22 (Lake Huron) of the United States Survey of the northern and northwestern lakes, will be:

Latitude, north, 45 degrees, 29 minutes, (04 seconds); longitude, west, 83 degrees, 53 minutes, (55 seconds).

Bearings of prominent objects from the station are:

Presque Isle Lighthouse, S. 66 degrees E. (SE. by E. 7-8 E.), 22 1-6 miles; Spectacle Reef Lighthouse, N. 29 degrees W. (NNW. 5-8 W.), 22 3-8 miles.

During thick or foggy weather a 10-inch steam whistle will sound blasts of 3 seconds' duration separated by silent intervals of 17 seconds, thus:

Blast	Silent interval	Blast	Silent interval
3 sec.	17 sec.	3 sec.	17 sec.

Blast, 3 sec.; silent interval, 17 sec.; blast, 3 sec.; silent interval, 17 sec.

The fog signal stands about 290 feet SE. by E. 3-4 E.

from the light tower. It is a red, brick structure, with red, corrugated iron roof.

Bearings are true; miles are statute miles.

PLUM ISLAND RANGE LIGHT STATION.

Front Light.—Notice is hereby given that, on or about May 1, 1897, a fixed red light of the sixth order will be established in the structure recently erected on the southerly side of Plum Island, Porte des Morts Passage from Lake Michigan into Green Bay. The light will be shown from a single window in the front of a small, white, two-story tower, square at the base and octagonal at the top, clap-boarded and shingled, and having a black roof.

The focal plane of the light will be 32 feet above mean lake level; the light will be visible about 8 1-2 miles in clear weather, and through a small arc on either side of the range line.

Bearings and distances of prominent objects from the tower are: Portes des Morts (Pilot Island) Lighthouse, S. 51 degrees E. (SE. 9-16 E.), 2 1-16 miles; tangent to Table Bluff, S. 84 degrees, 30 minutes W. (W. 1-2 S.), 3 1-16 miles; tangent to Death Door Bluff, S. 86 degrees, 30 minutes W. (W. 5-16 S.), 5 3-16 miles.

Rear Light.—On the same date a fixed red light of the fourth order will be established in the structure recently erected on the westerly side of Plum Island, 1,650 feet (5-16 mile) N. 29 degrees, 30 minutes W. (NNW. 5-8 W.) in rear of the front light.

The focal plane of the light will be 68 2-3 feet above mean lake level, and the light should be seen about 13 miles in clear weather. The light will illuminate about 231 degrees of the horizon lying to the westward of N. 31 degrees, 30 minutes W. (NNW. 13-16 W.) and S. 19 degrees 30 minutes W. (S. by W. 3-4 W.) (bearing from a vessel).

The structure consists of white, square, pyramidal, iron, skeleton tower surmounted by a cylindrical watch room and a black octagonal lantern. A two-story, buff, brick, double dwelling, with red roof, stands about 100 feet SSE. from the tower.

The approximate geographical position of the tower, as taken from Chart No. 35 (South end of Green Bay) of the United States Survey of the Northern and Northwestern lakes, is:

Latitude, N. 45 degrees, 18 minutes (29 seconds); longitude, W. 86 degrees, 57 minutes (15 seconds).

Bearings and distances of prominent objects from the

tower are: Left tangent to Washington Island, N. 1 degree, E., 5 1-8 miles; Porte des Morts (Pilot Island) Light House, S. 47 degrees, 41 minutes E. (SE. 1-4 E.), 2 3-8 miles; tangent to Death Door Bluff, S. 83 degrees, 20 minutes W. (W. 5-8 S.), 5 1-8 miles.

The lights mark a range for entering Porte des Morts Passage from Lake Michigan.

During thick or foggy weather a steam siren will sound blasts of 3 seconds' duration separated by silent intervals of 17 seconds, thus:

Blast	Silent interval	Blast	Silent interval
3 sec.	17 sec.	3 sec.	17 sec.

Blast, 3 sec.; silent interval, 17 sec.; blast, 3 sec.; silent interval, 17 sec.

The fog signal building is a red, brick structure, with a red roof, and stands 1,280 feet (1-4 mile) N. 23 degrees, 50 minutes W. (NNW. 1-8 W.) from the rear tower. Bearings are true; miles are statute miles.

By order of the Lighthouse Board:

W. S. SCHIELY,
Captain, U. S. Navy, Chairman.

Office of U. S. Lighthouse Inspector, 10th Dist.,
Buffalo, N. Y., April 10, 1897.

Three gas buoys (black) numbered 1, 3 and 5, have been placed in Ballard Reef Channel, Detroit river, Michigan, in lieu of the private lights heretofore maintained there. These buoys mark the western edge of the channel, and great care should be exercised in keeping clear of them, as there is a natural set of the current to the westward in this part of the channel. Tows and rafts should be especially careful, as these buoys are replaced with difficulty when once removed.

A temporary black spar buoy (No. 5 1-2) has been placed just above the upper gas buoy, and a little in the channel, to mark a 17-foot ledge of rock, which will probably be removed during the coming season. Vessels drawing over 16 1-2 feet of water should give this latter buoy a berth of at least 50 feet.

CHARLES V. GRIDLEY,
Capt., U. S. N., Inspector 10th Lt. Ho. Dist.

NOTES.

The April issue of the North American Review opens with a full historical account of the way the English deal

with the Indian famines by the Marquis of Dufferin and Ava. Surgeon General Walter Wyman contributes an article on the "Black Plague." "Democracy and Socialism" is the title of a thoughtful paper by Hon. Perry Belmont. The other subjects of discussion are "Antarctic Explorations," "What Will Bring Prosperity," "The Uprising of Greece," "A Spanish View of the Nicaraguan Canal," "The Need of Copyright Reform," "The Foreign Policy of the New Administration," and notes and comments.

The American delegates to the International Maritime Conference met at the State Department in Washington last week to devise regulations for the government of navigation in waters of the United States, as far as possible, in conformity with those already laid down by the international conference for the guidance of vessels on the high seas. A committee consisting of Judge W. W. Goodrich, of New York; Capt. Sampson and Capt. J. W. Shackford was appointed to draft a bill for presentation to congress by which the differences existing between the international rules and those governing in inland American waters may be reconciled.

The United States consular service is classified, and fixed salaries are paid each class. First, there are consuls general, whose salaries vary from \$6,000 to as low as \$1,500 per annum. The highest salary is paid to the consul general at Havana, \$6,000. The salary at London, Paris, Rio de Janeiro, Shanghai and Calcutta is \$5,000 each; Melbourne, \$4,500; Berlin, Montreal, Yokohama, Panama and City of Mexico, \$4,000 each; Halifax and Vienna, \$3,000 each; Apia and Nukualofa, Ottawa, Rome, St. Petersburg, Singapore, and Cape Town, \$3,000 each; Monterey, \$2,500; Tangier and Maracaibo, \$2,000 each; San Domingo and Barcelona, \$1,500 each.

According to the 105th annual statement, Insurance Co. of North America, Philadelphia, Penn., founded 1792, the office of second vice president has been abolished and Mr. Eugene L. Ellison now takes the office of vice president, Mr. George H. McFadden retiring. In addition to the foregoing a marine secretary, Mr. T. Houard Wright, has been added to the list of officers, thus leaving the number the same, but substituting a marine secretary in place of second vice president. The assets are increased in the sum of \$35,000. Mr. George L. McCurdy, Royal Insurance building, Chicago, is manager of the lake marine department.

TACOMA COMMERCE.

Harbormaster Clift makes the following report of the ocean commerce at the port of Tacoma for the month of March:

IMPORTS.

Cargo steamer Braemar, from China and Japan.....\$ 359,231 11
Previously reported 1,391,329 11

Total imports three months.....\$1,750,560 22

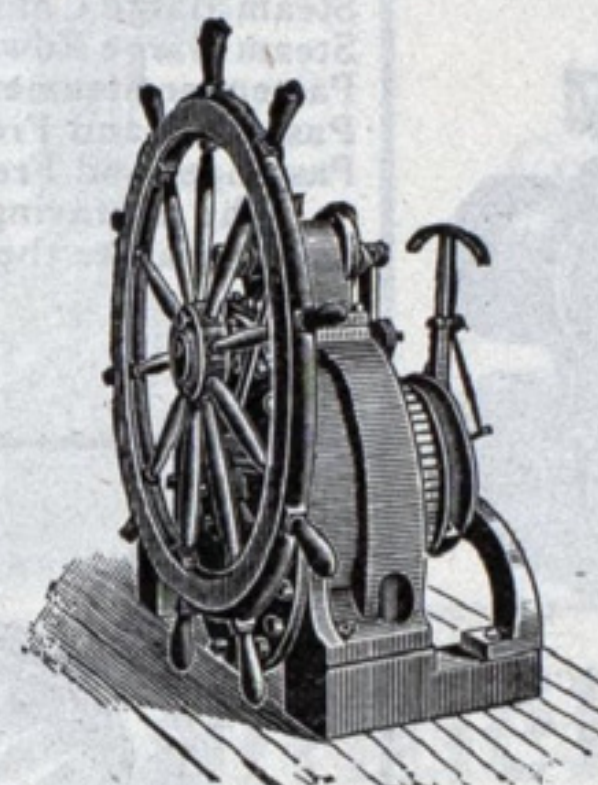
EXPORTS.

6,533,834 feet lumber.....\$ 47,820 00
25,848 tons coal..... 78,420 00
Merchandise to British Columbia..... 40,290 83

Total\$ 166,530 83
Previously reported 1,243,215 67

Total exports three months.....\$1,409,746 50
Inward registered tonnage..... 35,930
Inward cargo tonnage..... 4,265
Outward registered tonnage..... 40,941
Outward cargo tonnage..... 28,649
Deep sea arrivals..... 41
Departures 32

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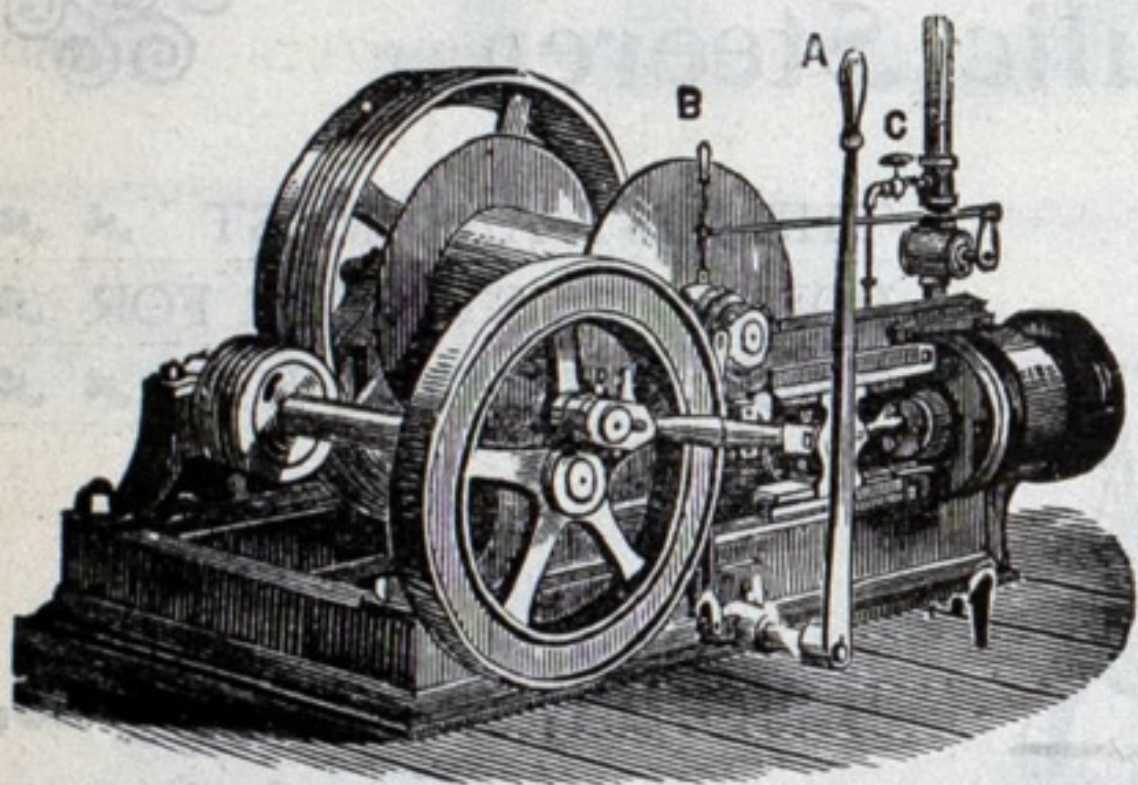
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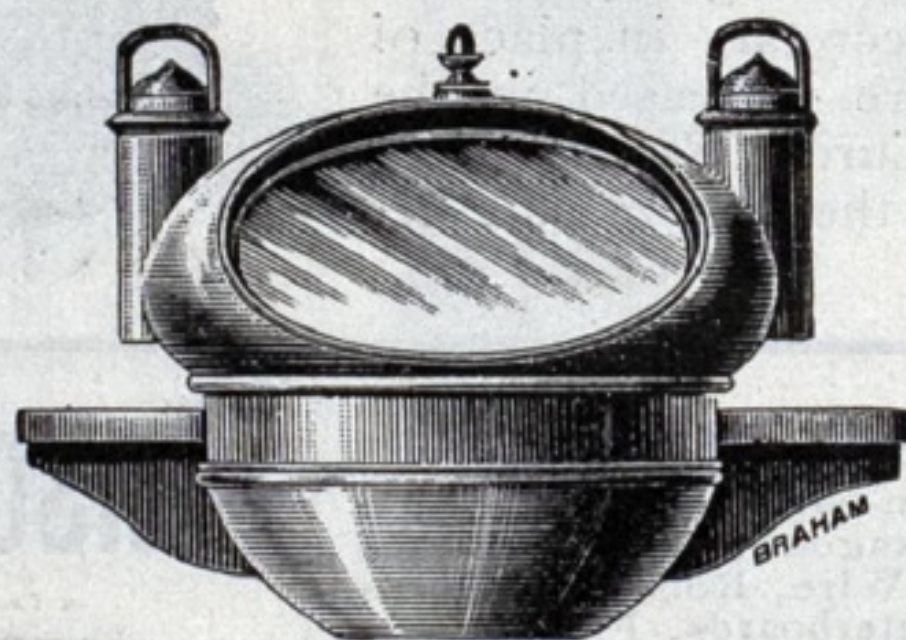
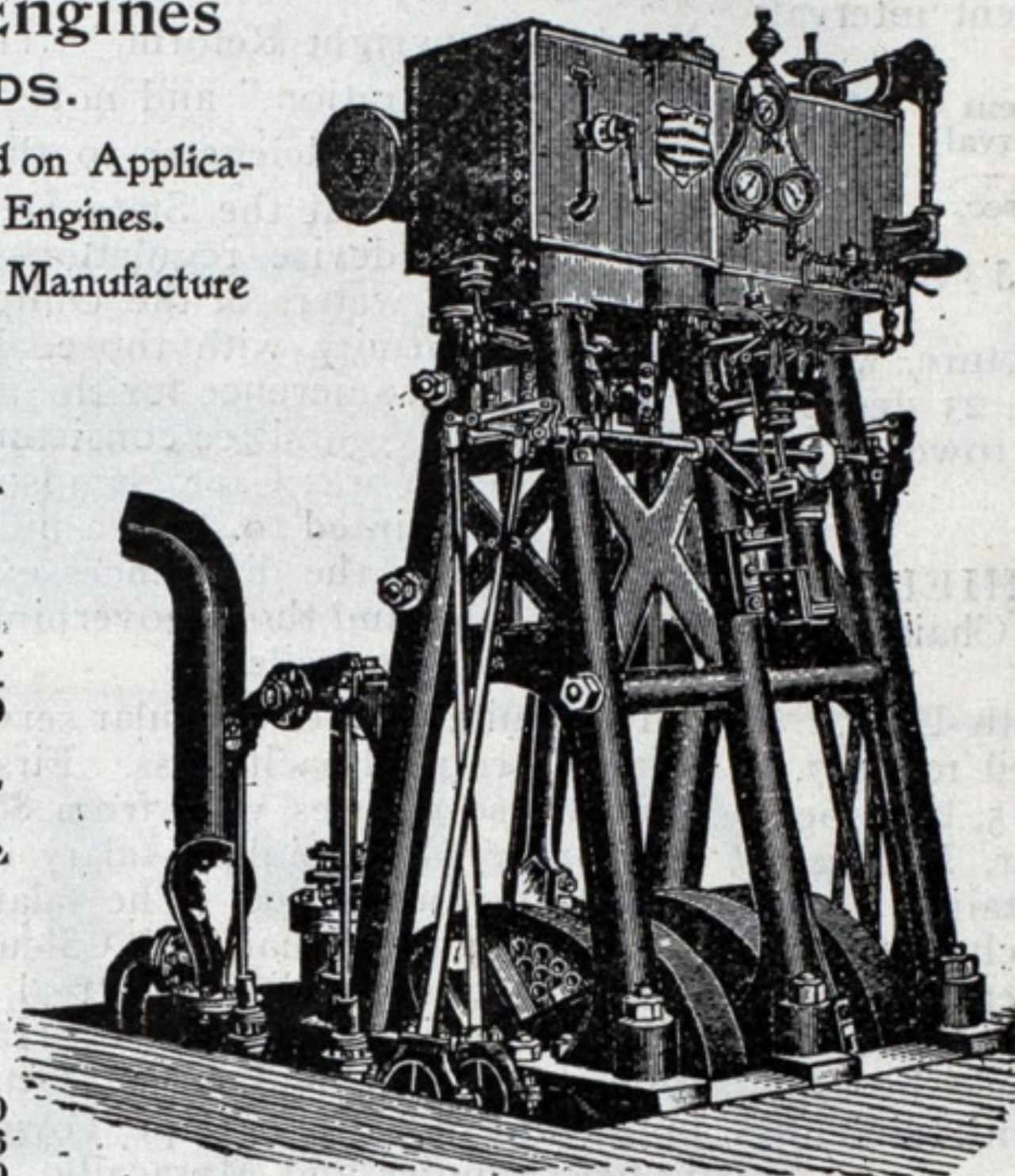
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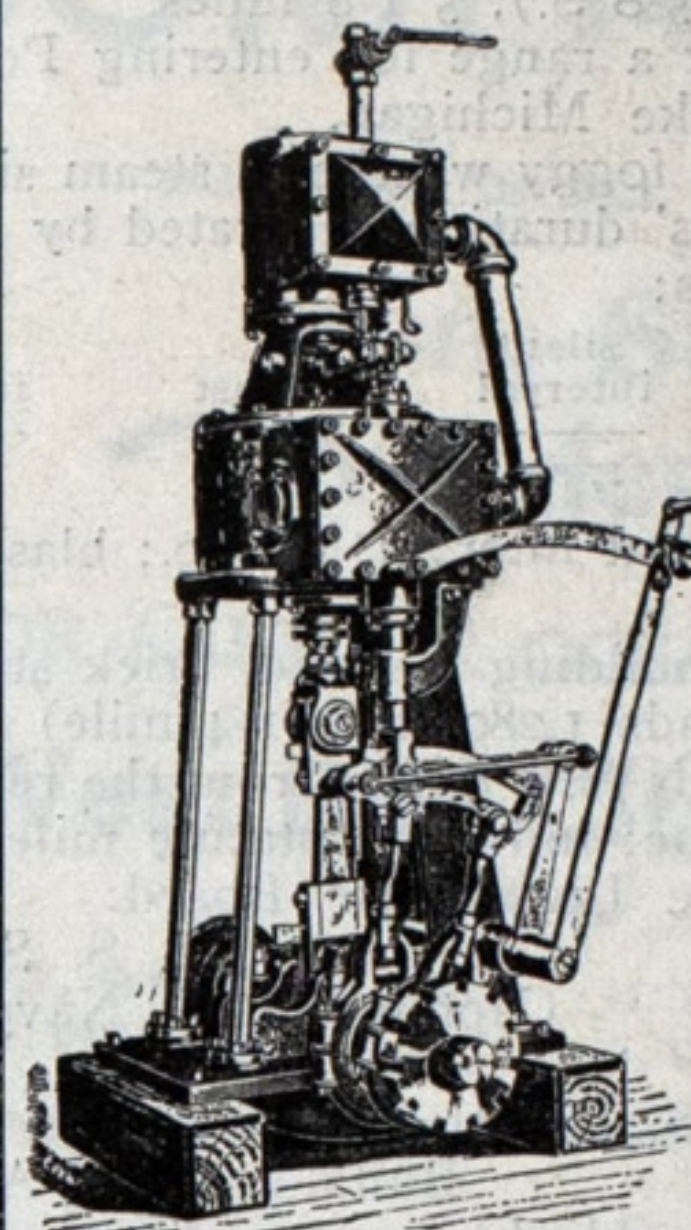
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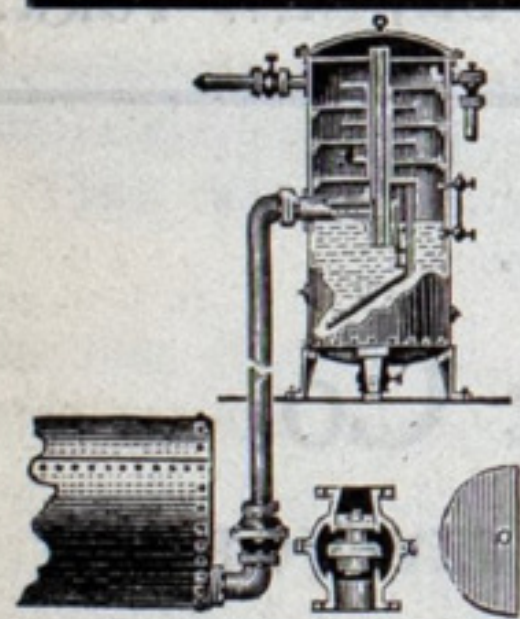
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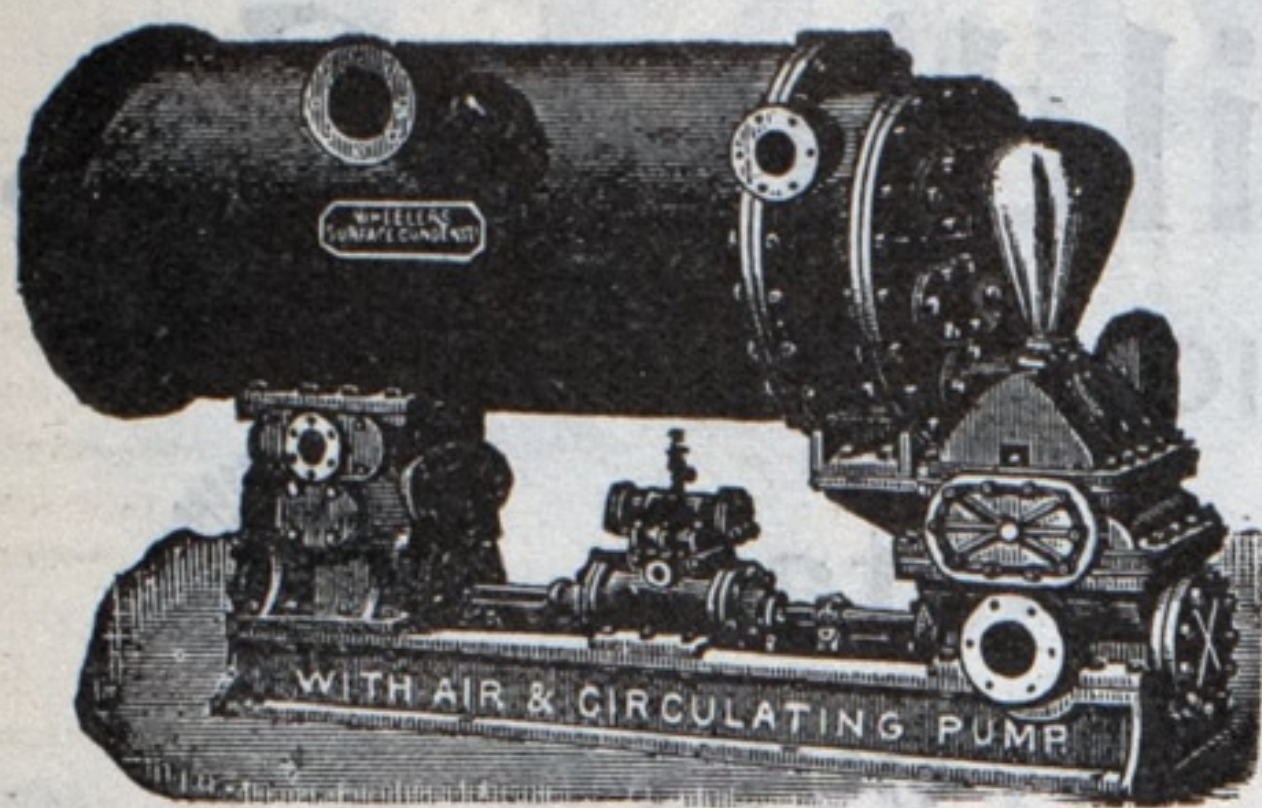
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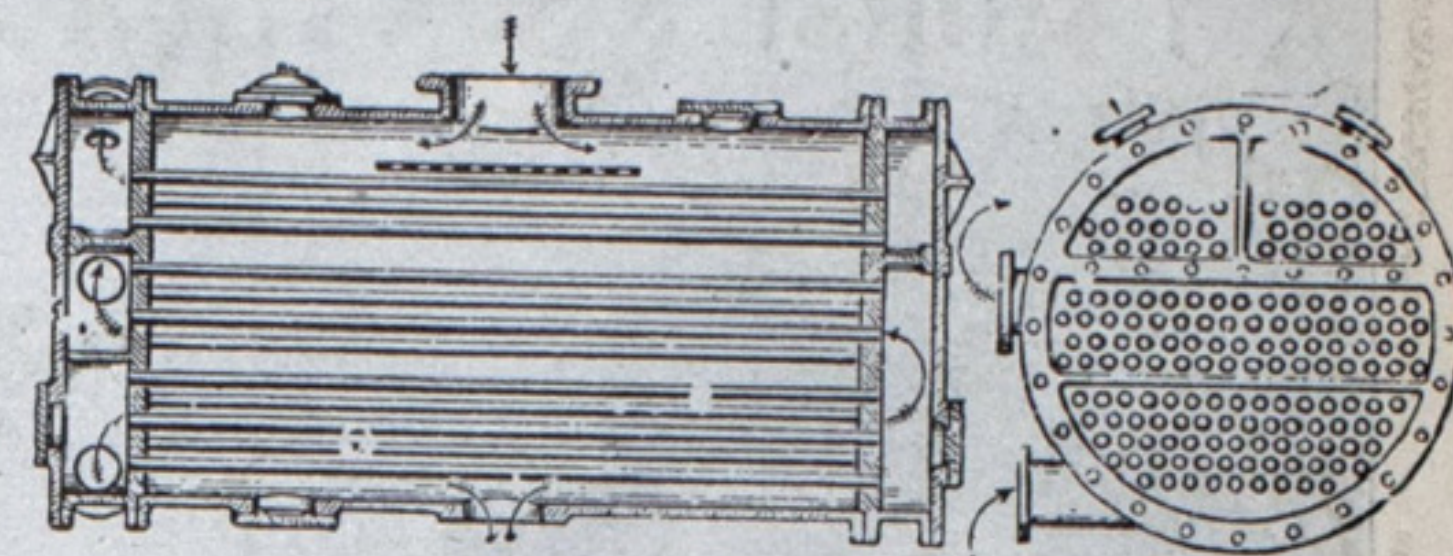
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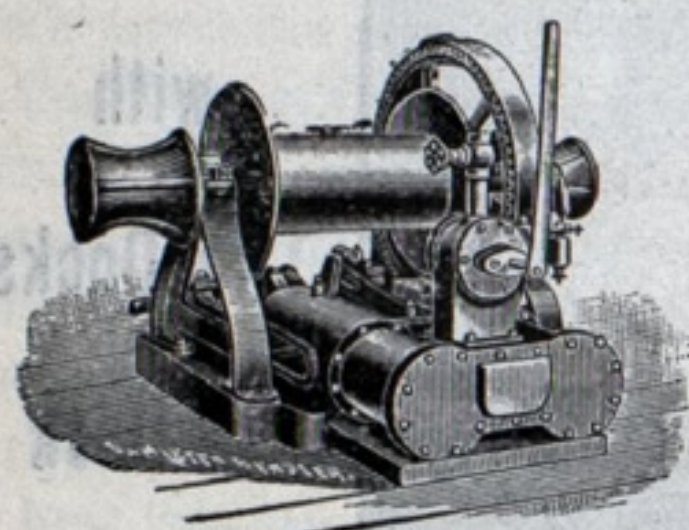
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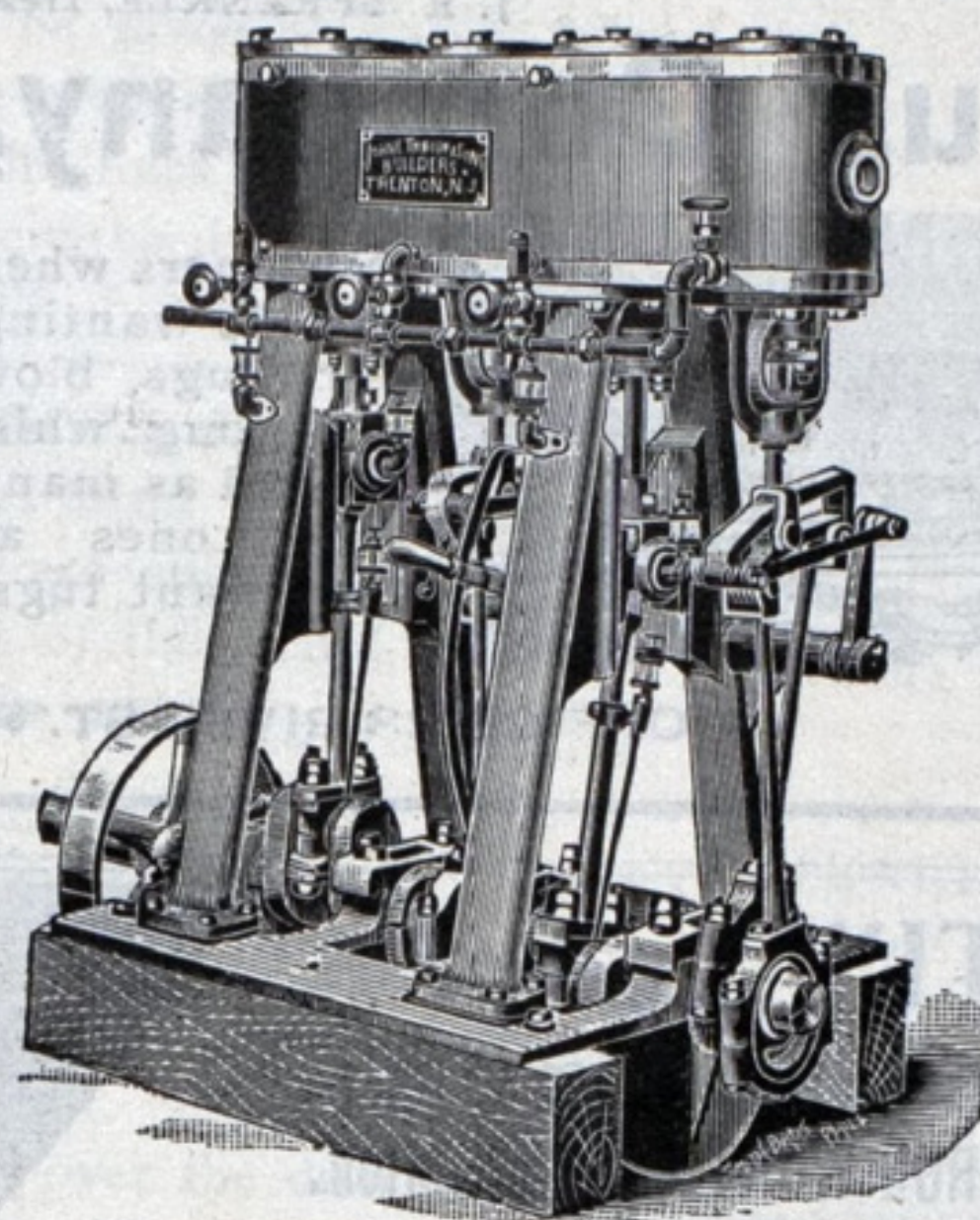
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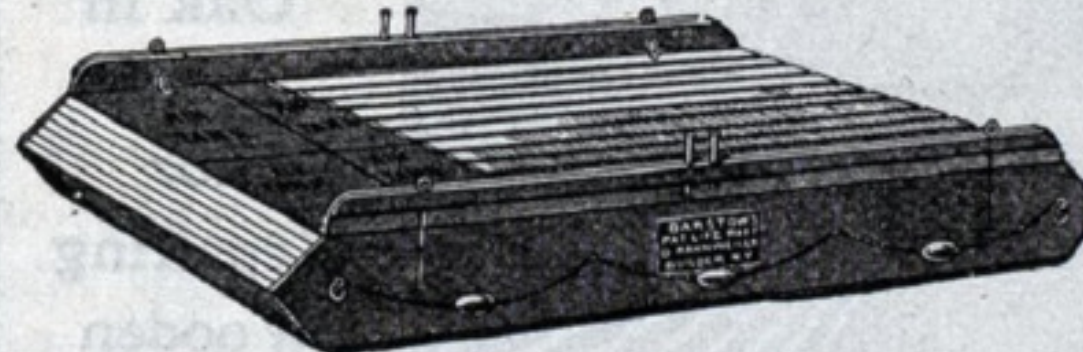
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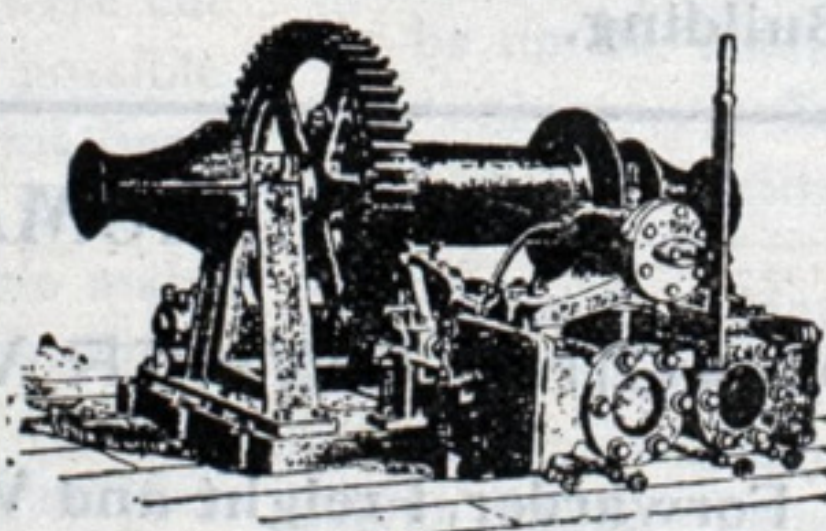
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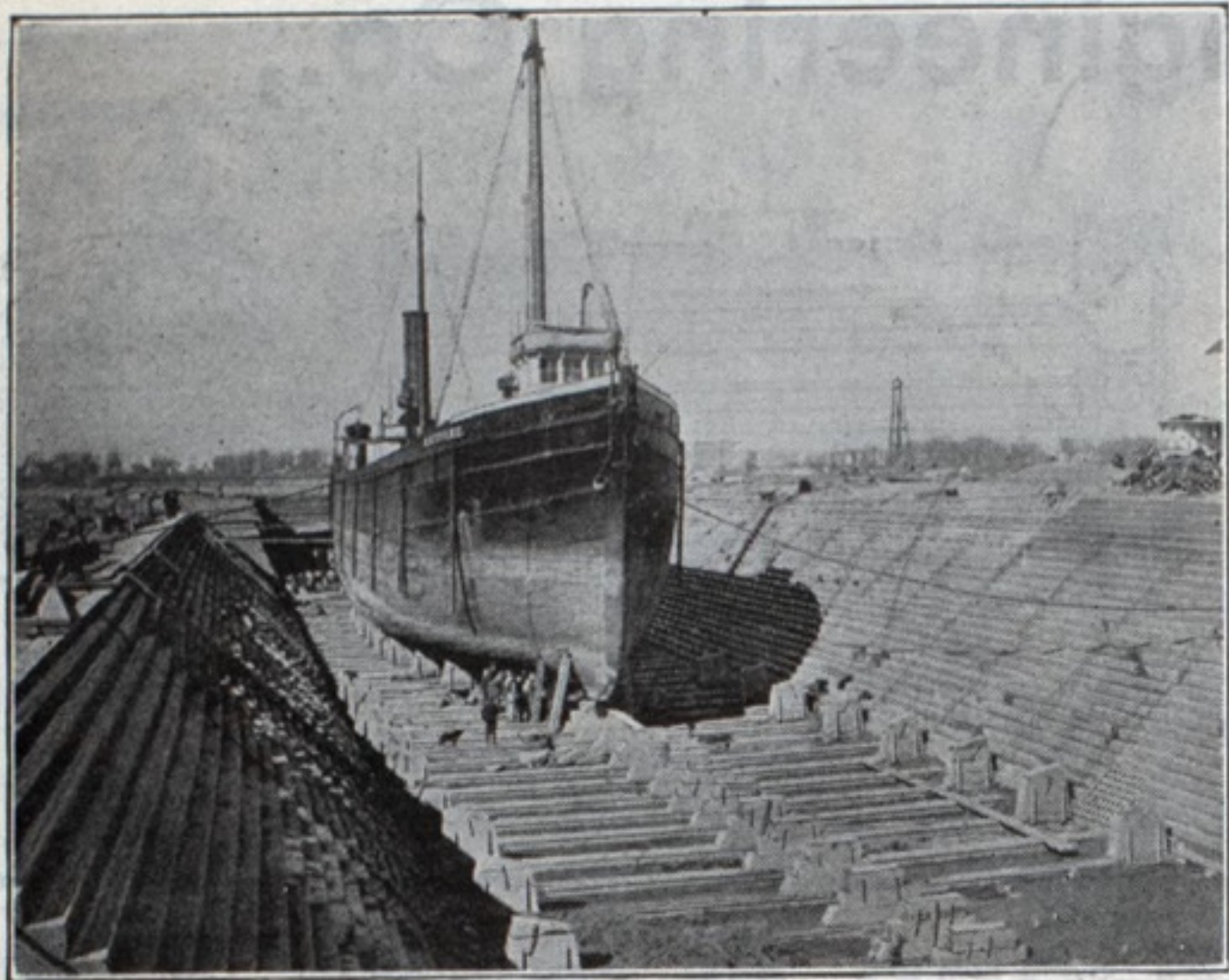
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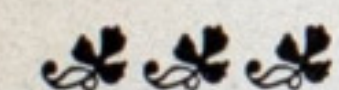
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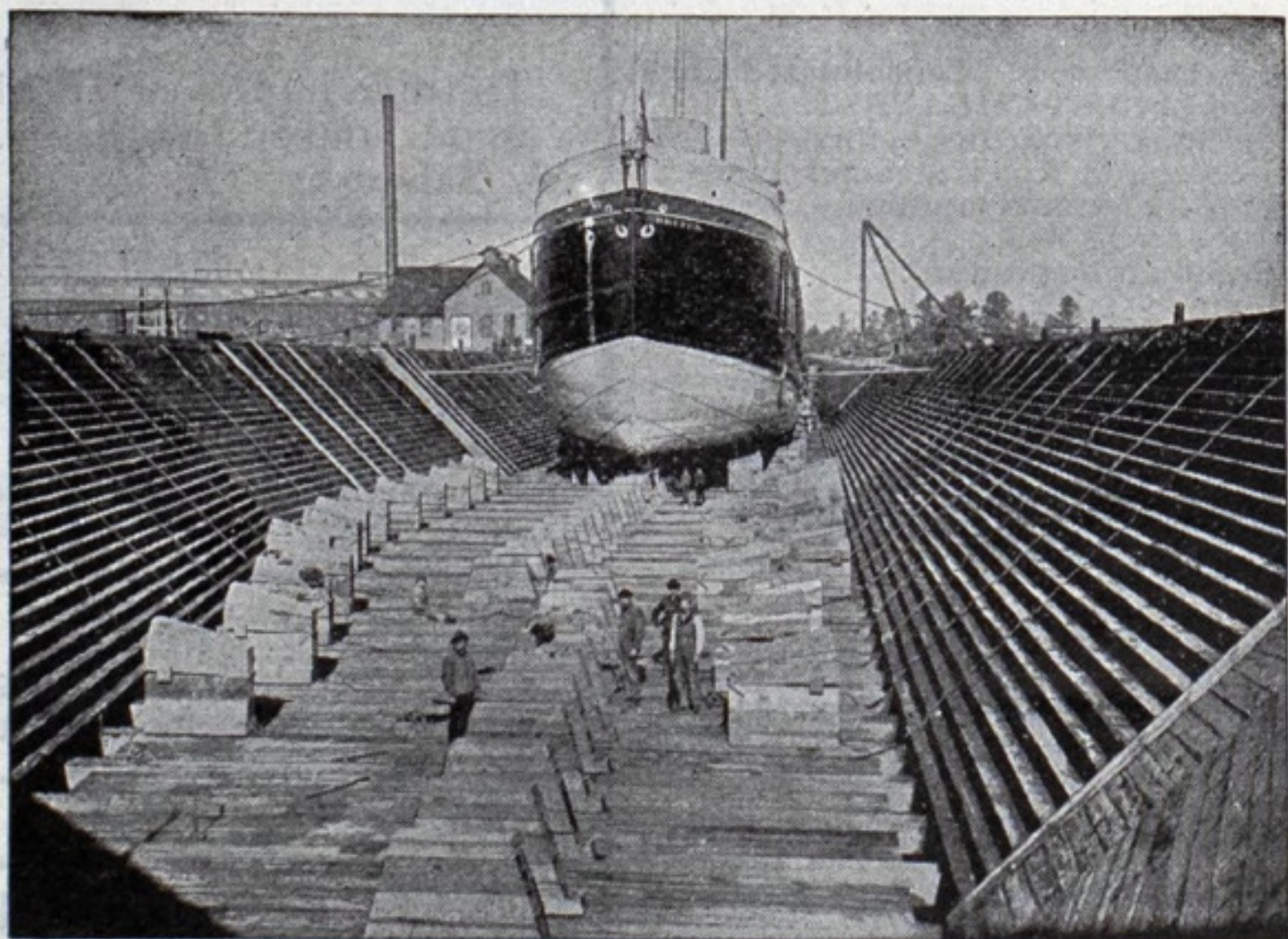
STEEL AND METAL SHIPS

Of all Classes built on shortest possible notice at our yards at WEST SUPERIOR, WIS., and also at EVERETT, WASH.

PHOTOGRAPH OF 300-FOOT BOAT IN DOCK.



Plates and Material always on hand to repair all kinds of Metal Ships in Shortest Time.



Best Quality of Oak in Stock for Repairing Wooden Vessels of all Classes.



SIZE OF DOCK

Length, Extreme.....	587 feet.	Entrance, Top.....	55 feet 9 in.
Breadth, Top.....	90 " 4 in.	Entrance, Bottom.....	50 "
Breadth, Bottom.....	52 "	Depth over Sills.....	18 "

LARGEST DRY-DOCK ON THE LAKES.

Prices for Repairs and Docking same as at Lower Lake Ports.

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A Number of Propeller Wheels in Stock at Dry-Dock.

A. Gilmore's Sons,

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EAST SIDE, NEAR IRONVILLE, - - - TOLEDO, O.

Dimensions of Dock, 236 feet long, 55 feet wide at top and 37 feet wide at gate. Nine feet water over sill. RATES OF DOCKING, Ten Cents per registered gross ton for vessels over 200 tons. Jig Mill and Planer in connection with Dock.

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Paint Your Vessel with

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NO BLISTERING, CRACKING OR SCALING.

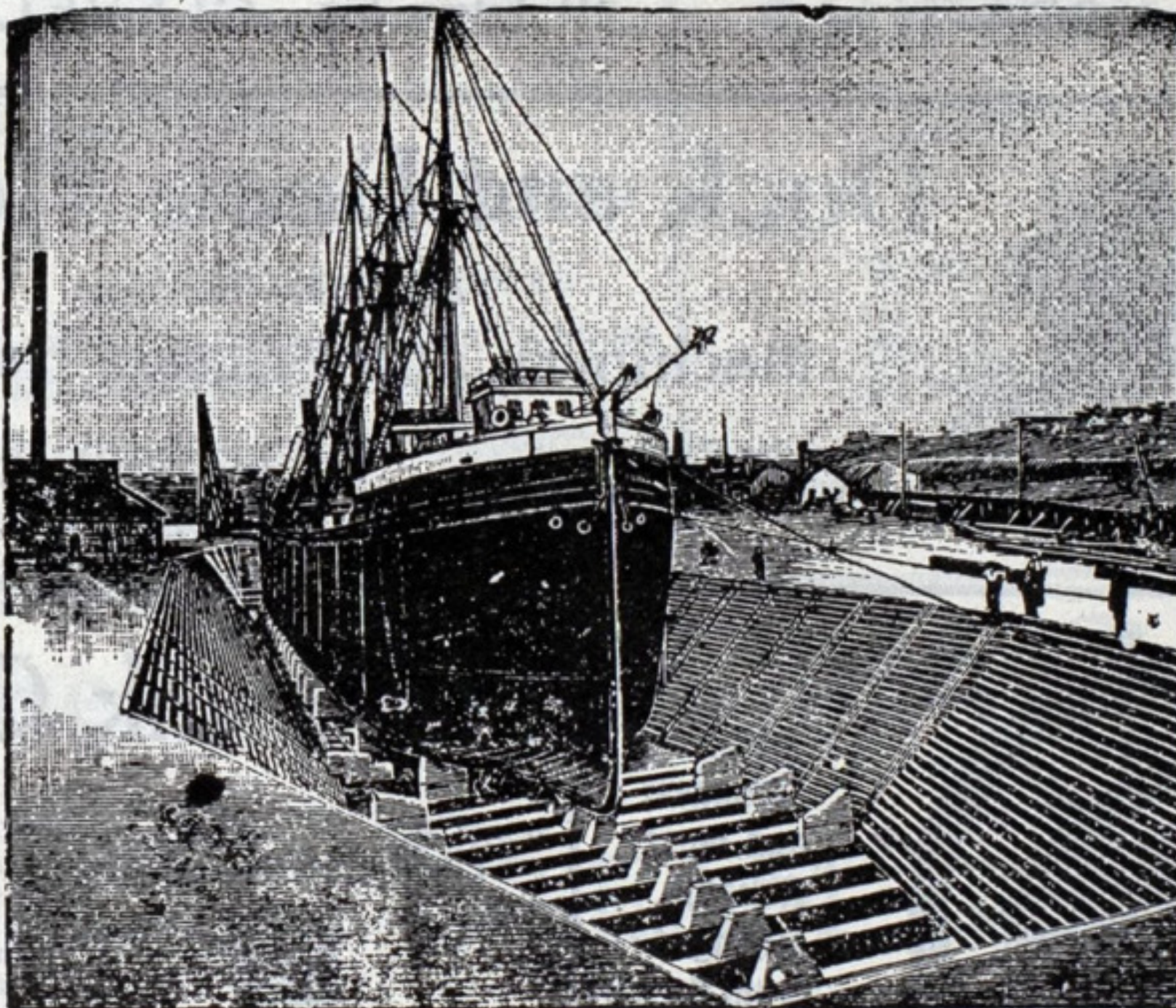
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Two Docks
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Largest
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GENERAL REPAIR WORK PROMPTLY ATTENDED TO.

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